THE BUILDER

A JOURNAL FOR THE ARCHITECT AND CONSTRUCTOR.

WITH WHICH IS INCORPORATED "THE BRITISH ARCHITECT."

VOL. CXXXI.—No. 4360 AUGUST 27, 1926

ENGINEERING AND UGLINESS

A PAPER with this half-humorous title* was read recently before an engineering society and now appears in pamphlet form. Its author has the happy gift of saying serious things in an amusing way. He is one of those who are intensely sincere in their denunciations of humbug and self-satisfaction, and such men generally suffer from being considered comic, witty, and provocative. Cervantes, Swift, and Bernard Shaw have all been in turn regarded as comic spirits because they have used their gift of satire with intense conviction to hold up to ridicule the follies of their day. But the important point is that their writings are read, and they eventually produce their effect. In this paper Mr. Creswell conducts an inquiry into the causes that go to make so many of our engineering structures ugly; he suggests five major attributes that would, if present, unite to make them beautiful, and he then examines how the absence of one or more of these attributes tends to spoil our present-day structures. His postulates run as follows:

"*First*, we observe that each is fabricated of materials directly derived from an origin in nature, that the characteristic qualities of those materials are realisable by everyone, and that they are so applied as to awaken a sense of having been shaped and fitted together by the hand of man. *Secondly*, we find the materials to be of complete integrity and used with no other purpose than that of making the best use of them, so that the beholder receives an impression of the admirable characteristics of the materials whose qualities—weight, hardness, toughness, elasticity and rigidity—are glorified in the structure. *Thirdly*, we observe that the form of each of these structures is in every part exactly designed to resist the forces of nature so that the character of those forces and of the reactions opposed to them are expressed in its form and perceived by the beholder. *Fourthly*, we find, as resulting from or contributory to the above, that each of these structures displays the nicest efficiency and economy of means to ends; and *fifthly*, we notice that each has a dignified use and purpose, and in no case one that is ignoble or trivial."

Whilst all these attributes no doubt make for the beauty of an engineering structure, yet if we accept them as being sufficient to explain it altogether we should be segregating architecture as an art whose appeal is fundamentally different in nature from that of every other art, since these conditions apply only to architecture. The similarity in the appeal of all the arts in the mind of the observer is so marked that it is surely inconceivable that there is nothing behind them shared in common between them all? A further difficulty arises in connection with postulate No. 5, because the author, in elaborating this, points to the Crematorium at Golders Green and bewails that all the resources of architecture cannot enable anyone to design a crematorium chimney which will look beautiful. The reader's difficulty here is twofold. First, that it is generally conceded that Sir Ernest George has succeeded in doing so; secondly, by what process of reasoning can a necessary function of a building such as a crematorium be considered "ignoble"? The funeral procession and the service for the burial of the dead are universally regarded as forming one of the most solemn of human rites, and one cannot see how by any process of reasoning one can regard the disposal of human remains as either trivial or ignoble. Again, similar objections are urged concerning the architecture of pumping stations. Here the author is his own antagonist; was he not responsible for the boiler works at Queensferry? It was he, twenty-five years ago, who showed us how dignity and beauty could be imparted to a boiler works and he now informs us that the same cannot be done for a pumping station. We agree that to disguise the purpose of a sewage farm, a gas works, or a refuse destructor is a thing worse than any ugliness, but we suggest that such necessities to human existence are not common and unclean, and therefore unfit for suitable architectural treatment. The example that he cites of the fourteenth-century Gothic chantry used for selling picture postcards is rather an instance of a building erected for a higher purpose and used for a lower one in which the blatant anachronism between medieval workmanship and picture postcards plays an important part.

It is, of course, extremely difficult to eliminate the sense of association from the actual architecture of a building. Let us consider an example. Did the actual architectural value of Santa Sophia suffer in the eyes of a Christian architect from its conversion from a church into a mosque, leaving out of account any actual changes made in the building? If it did, then it follows that it must have gained in architectural beauty in the eyes of a Mohammedan architect, while it must have remained unaffected in the eyes of an atheist. For ourselves, we cannot imagine that its architecture would be impaired if it ceased to be used as a house of worship and became, without structural change, a meeting place for communist propaganda, for which purpose it would be well suited. We should deplore that so great an art creation should be used for such a purpose, but we could hardly urge that its architecture had suffered. This seems to point to an absolute value where suitability to purpose finds its place, but where there is no room for the relativity of the individual's associations. We are thus thrown back on that unanalysable element in the art world that Mr. Williams-Ellis calls "X" and Mr. Manning Robertson "The Fourth Circle." It has been called many names, but has never been defined nor explained.

In the discussion that followed Mr. Creswell's paper Mr. C. E. Stanier remarked that a thing could not be beautiful unless its producer had loved it, and in that one sentence he probably summed up the trouble as to the æsthetics of modern engineering and architecture. Too many of our structures proclaim clearly that they owe their form to pressure of extreme economy applied to the designer, or to his belief that someone else might, or ought to, think the building beautiful, or to the dictate of fashion, or to the imitation of the antique—to any cause except that the designer loved the building himself. It is difficult to see that the engineer is more blameworthy than the architect. The engineer's artistic failures occur when he has not interested himself in the appearance of his building and allows himself to be governed blindly by economy; in such cases an understanding of proportion might well save the beauty of the structure without adding a penny to the cost. The architect's failures generally arise from a lack of personal conviction and from the effects he attempts to make on others, hence the introduction of those extraneous embellishments which, we are told, are known as "tripe" or "Art Illusions," according to the creed of the critic.

The distinction that has recently arisen between works of engineering and architecture falsely suggests that the dignity and beauty of buildings are attributes that can be added, and implies a differentiation in the æsthetics of different types of structures that has no real existence. With increasing specialisation the two professions must tend more and more to diverge; let us hope that they will both realise that their professions are intimately concerned with the beauty of the structures they erect, and will lavish a little more of the personal love mentioned by Mr. Stanier.

*"An Inquiry into the Ugliness of Engineering Structures." By H. B. Creswell, F.R.I.B.A.

NOTES

The Registration of Architects.

JUDGING from the correspondence which reaches us, there appears to be a good deal of impatience on the part of architects and others to know the nature of the registration proposals of the R.I.B.A. and the terms of the Bill which is to be promoted. While this, perhaps, is natural, we think it will be agreed that the present holiday season is not the time to make public the draft of the Bill which is to be submitted, but we understand that the proposals of the Registration Committee of the R.I.B.A. will be before the public early in the new session. We do not believe the Institute will ignore the interests of the unattached architects, and we suggest that correspondents should refrain from criticism until they know what those proposals are.

The Ancient Bridges of England.

THE Society for the Protection of Ancient Buildings has done much excellent work, not only in preventing the destruction of many interesting old buildings, but in their judicious repair or restoration, and we are glad to call attention to the active interest the Society is taking in our old bridges, too many of which have been destroyed in the construction or widening of roads to cope with modern traffic. No doubt a number of these might have been saved if the Society had been advised that demolition was threatened, as in some cases where information was obtained in time the local authorities arranged a conference and an alternative scheme was adopted. Since April, 1924, the Society has endeavoured to obtain information of all the bridges built before the year 1800 which are still in existence, and architectural and archæological societies and many individuals were asked to supply information with regard to them. Unfortunately the response has been small, and up to March last only about 250 reports had been received; thus it is found to be useless to rely on unpaid investigators if the Schedule of Ancient Bridges is to be exhaustive. The Society, therefore, determined to deal with the matter in a more business-like manner, for unless the list is completed without delay it will be too late to be useful in saving these interesting bridges. As an experiment an engineer was asked to make an investigation of all bridges in Dorset and South Devon by visiting as far as possible all river crossings where bridges were shown on a large-scale eighteenth century map. This tour was made during June, and many extremely interesting bridges were seen, some in quite out-of-the-way places. The Society is appealing for funds towards carrying on the work in other counties. It is estimated that £250 will be required to cover the bare expenses for investigating the southern half of England, and that it will take about eighteen months to complete. Subscriptions on behalf of this interesting work should be sent to the Secretary, Bridge Fund, at the offices of the Society, 20, Buckingham-street, Adelphi, W.C.2.

Architectural Criticism.

THE most independent and unbiassed criticism of art is probably to be found in the more or less good-humoured talk and chaff which is heard in the sheltered atmosphere of clubs or homes. The criticism of architecture has been more in evidence in the unprofessional Press in recent years, and some of it is well informed and fair, but the finally sound criticism must surely come from architects themselves if they are worthy exponents of their art. The true and outspoken opinion of modern architecture by modern practising architects is, however, an almost impossible task unless the personal element can be altogether left out, and in this connection our readers will find some pertinent comments in the article on "Architectural Criticism" in the August number of *Architecture*. "With such a being as man in such a world as the present one it is small wonder that critical tonics are apt to be disguised." With that quotation we must all agree, and surely we must also see that the criticism of

A Gilded and Coloured Gesso Memorial Tablet in St. Mathew's Church, Ealing Common.

Designed and Executed by MR. REGINALD HALLWARD.

An Old English Tombstone.

literary work is not quite on all fours with that of architecture. So much architectural work is done as a private adventure between architect and client that public criticism is neither invited nor of much account. But we must never forget that whilst we can, if we choose, ignore the good or ill of literary work, we cannot get away from the effect of buildings, whether public or private, nor escape criticism of them, whether the architect is injured by it or not.

Rural England.

As there is so much overlapping of effort amongst the many societies and associations which have come into being in recent years, we can, perhaps, hardly complain if it seems desirable to unite the various influences at work for the preservation of the beauties and amenities of rural England in a body to be entitled The Society for the Preservation of Rural England. We understand the idea comes from Professor Abercrombie, of the Liverpool University, and that we may shortly have before us some definite manifesto on the subject.

Restoration of Window, Thornton Abbey, N. Lincolnshire.

COMMENTING on this window (shown in an illustration on p. 337) Mr. John J. Cresswell, A.R.I.B.A., writes: "I have seen neither in stone nor in illustration any English tracery of this character, so I think the drawing may be of interest to the readers of *The Builder*. Interpenetration of mouldings is, however, commonly found in later German Gothic. This window, with its decidedly geometrical character, appears at first sight to be no later than *c.* 1250. The church was founded about 1180-1200, and was practically finished by 1308, though some work, possibly a tower, was completed in 1315, and a new cloister in 1323. The largest portion of the church remaining is a fragment of the Chapter House (attached rather singularly to the south transept), which has wall panelling of blank windows on the attached side of the same late-geometrical character as this window, without any such interpenetrating mouldings. It is to be noted, however, that in the fortified gateway (dated, say, 1400, the licence to crenellate having been granted by Richard II in 1382), the mouldings of the surface ribs of the pointed barrel-vault interpenetrate at the springers. Interpenetration of mouldings is practised in the door jambs of Tattershall Church, built by Sir Ralph de Cromwell in 1440–50. Is it possible that some German craftsman during the later stages of the work copied the earlier geometrical tracery, even down to the soffit cusping set in a groove of the main tracery, but worked it out with a scheme of mouldings to which he was accustomed? The carrying out of the nave of Westminster Abbey on the lines of the twelfth century crossing with fourteenth century detail is a parallel. Thornton Abbey is close to the Humber, and foreign craftsmen could have come over by way of the neighbouring port of Grimsby or of Hull."

British Bricks.

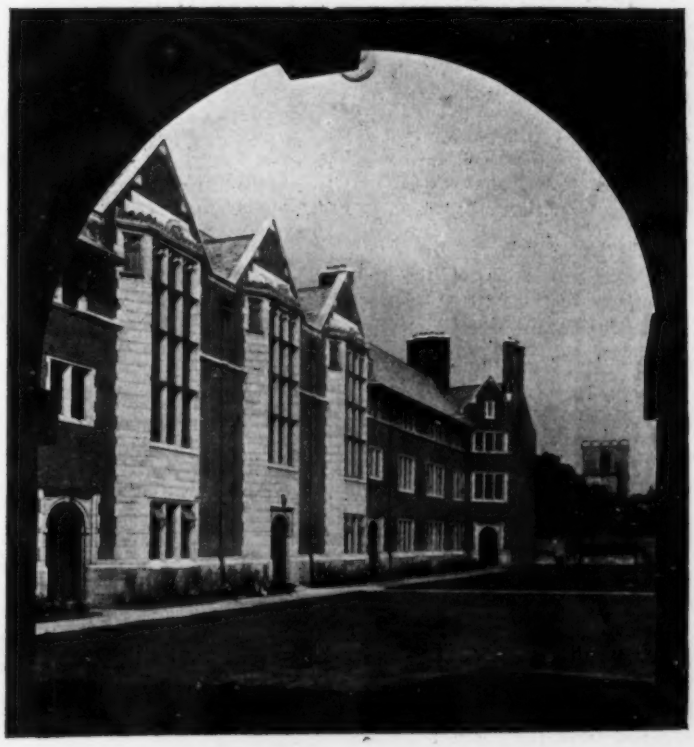
IT is reported that the brickyards of Peterborough are working day and night to cope with the demand for British bricks, but that an output of over twelve million a week is insufficient. This is certainly an encouraging symptom in view of the statement by one of our correspondents that last year he observed in outlying London districts, a widespread consumption of French and Belgian frogless bricks, some being of the unburnt variety.

Colour in House Decoration.

A CORRESPONDENT writes: "Is there not something to regret in the superseding of the old workshop practice of mixing the colours by hand to suit the requirements of the work to be done, instead of depending so much on patent colours ready mixed, which has largely replaced the old craftsmanship of colour? A painter occupied in the trade long enough to remember the old workshop practice, and regretting its loss, complained that his work was now almost automatic, the old craft practice hardly ever being called into play."

Waste Paper.

THE litter of waste paper left behind after each Bank Holiday represents such a disregard of public amenities that steps should be taken to deal with the nuisance. Would it not be possible to erect notices on the heaths, commons and open spaces scattered round London requesting people not to litter paper about. The worst disorder of this kind is occasioned where there are stalls and amusements of the nature of a fair. We have in mind one large common near London which, being much frequented on holidays, is covered with a litter of paper. A public notice which we hear of as being erected on a holiday occasion was inscribed as follows: "Remember, you pay the people who collect the paper you leave about." Apart from the very disagreeable sight of such disorder, it is also demoralising to people themselves who have not yet learned to respect their property as citizens with the same care they would bestow on their homes. The clearing up afterwards has to be paid for, and this expense could be avoided altogether were there more civic spirit.



Wesley Hostel, Cambridge: View through Arch.
SIR ASTON WEBB & SON, Architects.

GENERAL NEWS

R.I.B.A. Examinations.

The questions set at the intermediate and final (or special) examinations held in June and July, 1926, have been published, and are on sale at the Royal Institute, price 1s. 6d. (exclusive of postage).

Discovery of Ancient Church in Gloucestershire.

The shell of the nave of an ancient Cotswold church has recently been identified by Mr. W. H. Knowles, F.S.A. Subsequent excavations have disclosed the foundations of the chancel (16 ft. by 13 ft.), and identified the remains as those of the Grafton Church that was associated with the priory of Beckford. The fabric was similar in date and dimensions to the Church of Great Washbourne, not far distant.

Smoke Abatement Exhibition.

The Universal Smoke Abatement Exhibition opens in Bingley Hall, Birmingham, on September 6. Among the exhibits will be a large industrial boiler-house which, it is believed, is practically perfect from the points of view of efficiency, fuel economy, labour-saving, and elimination of smoke. The exhibition will remain open until September 18.

Brick Industry in Canada.

The production of sand-lime bricks in Canada in 1925 totalled 63,869 million, valued at $781,555, as compared with 55,873 million, worth $619,946, in 1924, according to a statement just issued by the Dominion Bureau of Statistics at Ottawa. Nine plants were in operation in 1925, of which 7 were in Ontario and 2 in Manitoba, while in 1924 there were 10 establishments in Ontario, 1 in Manitoba, and 1 in Saskatchewan. Capital employed in the sand-lime brick industry in 1925 amounted to $960,729, as against $1,346,239 in the previous years; employees numbered 206, as against 236 in 1924. Materials used in manufacture cost $130,155 in 1925, as compared with a corresponding figure of $181,260 in 1924.

Archæological Finds in Athens.

The demolition of the former Royal stables, which were situated between Stadium-street and University-street, has led to the discovery of an ancient burial ground, the excavation of which has produced many interesting archæological finds. What is of considerable interest is the discovery, it is stated, of a section of the ancient wall of Athens, built by Themistocles shortly after the Persian wars.

Restoration of Tal-y-Llyn Pass.

The Merionethshire County Council have considered the question of the restoration of the famous Tal-y-Llyn pass which was greatly damaged and blocked by a landslide during a recent storm. The council has approved of the expenditure of £50,000, to be raised by a five-years scheme with the Ministry of Transport.

Warburton Church.

An appeal for the reparation of the old timber-framed church at Warburton, in Cheshire, is being sent out by the Ancient Monuments Society.

New Pavilion, Margate.

In our issue of August 13, we omitted to mention the name of the builder, Mr. L. H. Snowden, Broadstairs. The steelwork was carried out by Joseph Westwood & Co., Ltd., London.

National Gallery.

To the generosity of Viscount Rothermere, the National Gallery owes two interesting recent additions. One of these, a *Resurrection* by Ugolino da Siena, is a panel from the predella of a great altarpiece for Santa Croce in Florence, painted at the end of the thirteenth century. Banished in the sixteenth century to the dormitory of a convent near by, fragments were brought to England by W. Y. Ottley, and ultimately dispersed. The three surviving panels of the main body are in Berlin; but the National Gallery possesses four pieces of the superstructure, and with the *Resurrection* four out of seven predella panels. For its age, the new panel is excellently preserved, and, like its companions, with which it now hangs in the Gallery, is marked by fine colour and dramatic vigour. Lord Rothermere's other gift is a *Death of the Virgin* by a Spanish, perhaps Valencian, painter of the late fifteenth century. To the representation of Rembrandt's early work has been added by purchase a "Tobit and his Wife," which hangs in the vestibule. By the side of the Rembrandt has been placed a little picture of "Christ Appearing to the Virgin," purchased many years ago as a work of the Flemish School.

Archæological Discoveries at Lambay Island.

Some photographs relating to the archæological discoveries made recently at Lambay Island, off the Dublin coast, have been submitted to the antiquities department of the British Museum. On the evidence which the photographs supply, it is believed that the discoveries belong to the first century A.D. Among the more important articles found are a bronze beaded collar, a horn armlet and a number of brooches.

Colour Prints of the "Implacable."

Mr. Hesketh Hubbard, R.O.I., R.B.A., has prepared two colour-block prints of the old "Implacable," which are being sold on behalf of Earl Beatty's fund for the restoration of this old vessel to enable it to be used as a holiday training ship for boys. The original prints are printed personally by the artist and signed by him. They measure 10½in. × 15in. The price of each print, unmounted, is one guinea, posting and packing 1s. 6d. The prints can also be supplied mounted. Orders should be sent either to the secretary of the fund, Royal United Service Institution, Whitehall, London, S.W.1, or to the Forest Press, Breamore, near Salisbury, Wiltshire.

Ashtead Roman Villa.

An exhibition of the finds made during last year's and the present excavations is open until August 29, at the works of the Ashtead Potters.

Church of St. Sarkis, Kensington.

In the description of this Church, published in our issue of August 20, we gave the name of the Bromsgrove Guild (Birmingham), Ltd. It should read Bromsgrove Guild, Limited, Bromsgrove, Worcestershire.

COMPETITION NEWS

Manchester.

Owing to unavoidable delay in issuing the conditions of the competition for the Town Hall extension and public library buildings, the date mentioned in clause XII (questions) has been altered to October 2, 1926, and that mentioned in clause XI (sending in of designs) to January 8, 1927. A copy of the conditions may be seen at *The Builder* Offices.

COMPETITIONS OPEN.

	Particulars published in	Sending-in date.
Plan for construction of Conference Hall, for League of Nations, Geneva. International Competition, Sir John Burnet being British representative on Jury of Assessors.	"Builder." July 23 ..	Jan. 25 1927
Cenotaph, Liverpool. To be erected outside St. George's Hall. Premiums: 1st, £200; 2nd, £150; 3rd, £100; 4th, £50. Author of selected design will be paid commission of 500 guineas, to include premium. Professor C. H. Reilly, assessor. Second premium will only be awarded to ex-Service man	June 11 ..	Sept. 3
New Offices for Scottish Legal Life Assurance Society, Bothwell-street, Glasgow. Mr. John Keppie, A.R.S.A., F.R.I.B.A., assessor. Apply Mr. William Watson, Secretary, 84, Wilson-street, Glasgow, before August 21. Deposit £1 1s	Aug. 6 ..	Oct. 30
Academy, Perth. Open to architects practising in Scotland. Premiums: £100 and £50. Mr. James D. Cairns, assessor. Apply Mr. R. Martin Bates, Education Offices, Perth. Deposit £1 1s.	July 23 ..	Jan 3, 1927

SOCIETIES AND INSTITUTIONS

CARDIFF TECHNICAL COLLEGE.

Department of Architecture and Civic Design.

At the Technical College, Cardiff, ten scholarships covering tuition fees and maintenance grants of £40 per annum for three years, are offered for competition annually. As candidates for entry to the Department of Architecture and Civic Design are eligible to compete for these scholarships, they are of considerable interest to those contemplating entering the architectural profession. The scholarship examination is a competitive one, and is of about the same standard as Matriculation. In the case of candidates for the School of Architecture the subjects are:—

(1) English.
(2) Mathematics—two papers: (*a*) Algebra and arithmetic; (*b*) geometry and mensuration.
(3) A modern language (French, German or Welsh).
(4) Physics with mechanics, or chemistry, or higher mathematics.
(5) History or geography.

Candidates must further satisfy the head of the Department of Architecture as to their ability in elementary drawing.

The Department has now been at work for rather more than six years under the charge of Mr. W. S. Purchon, M.A., F.R.I.B.A., the Lecturer in Architecture being Mr. R. H. Winder, M.A., A.R.I.B.A., and the Assistant Lecturer Mr. Lewis John, M.A., A.R.I.B.A. The following local architects assist in the work of the Advanced Course as Honorary Lecturers: Messrs. Percy Thomas, F.R.I.B.A., Ivor Jones, A.R.I.B.A., T. Alwyn Lloyd, F.R.I.B.A., H. Teather, F.R.I.B.A., A. L. Thomas, F.S.I., C. S. Thomas, F.R.I.B.A., and J. H. Jones, F.R.I.B.A.

Students in the Department also attend courses in the Departments of Engineering, Technical Chemistry, Mathematics, and the School of Art, all of which are housed in the same building. This School of Architecture is "recognised" by the Royal Institute of British Architects, which grants exemption from its Intermediate Examination to students who pass successfully through the three years' full-time day course leading to the Certificate. Individual students who pass successfully through the Diploma Course are exempted from the R.I.B.A. Final Examination with the exception of the subject of Professional Practice. The course for the Diploma consists of two sessions, the former of these being of six months' duration only, the intervening six months being spent in architects' offices. There is also an evening atelier for architects' assistants who cannot attend the day courses. The Department is in close touch with the South Wales Institute of Architects, representatives of this body being on the Advisory Committee of the School, and students of the School are eligible for the prizes awarded by the Institute. In addition to these awards there are a number of school prizes presented in the main by local architects. The external examiner for the past session was Professor A. C. Dickie, M.A., F.S.A., A.R.I.B.A.

The school year commences on Tuesday, October 5.

THE SURVEYORS' INSTITUTION.

The following members of this Institution have satisfied the examiners in the recent Special Diploma Examinations:—

FORESTRY.

C. R. Ingham, Padiham, Burnley.

RATING.

H. P. Hobbs, Manchester; F. E. Johnson, Ipswich; E. E. Lambert, London, S.W.11; G. W. Smith, Hendon.

SANITARY SCIENCE.

H. W. Boardman, Hornsea, E. Yorks; E. Bostock, Teddington; A. B. Day, Sherwood, Nottingham.

SURVEYING AND LEVELLING.

E. W. Hall, Amarah, Iraq.

Sir Thomas Sutton's Tomb in the Chapel of his Hospital in the Charterhouse, London.

From a Drawing by MR. E. C. FREERE.

CORRESPONDENCE

[While we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

Education in the Repair of Old Buildings.

SIR,—I quite agree with the remark contained in the article in *The Builder* of the 13th inst., under the above title, viz., "The analysis of causes of decay and the design of measures of repair evidently deserve a larger place in architectural education than they now receive." Buildings are like human beings—they get worse for wear and require periodical inspection, although this is often neglected in the case of buildings.

When a man becomes unwell he consults a doctor, but a building being of an inanimate nature quietly deteriorates through fluxion of time and the actions of earth, air, fire and water, until at last things come to a climax and attention is drawn to the structure.

It would be a good plan in practice to divide the repairs required to buildings into three categories, viz.:—

No. 1, where the building begins to show signs of deterioration. In this case small repairs only would be necessary.

No. 2, where the deterioration has proceeded through the minor repairs not having been executed

No. 3, where through fluxion of time and neglect the whole structure has become involved, such as the roof, the walls, arches, piers and foundation. This would be described as a "dangerous structure."

It would be well to know under which heading the state of repair at St. Paul's Cathedral would come. From a cursory glance at the exterior of the building, and from the solid manner in which Wren would have seen the work executed, and that it was not *hurried*, it might possibly be classed between Nos. 1 and 2. This, of course, can only be known to those who command the situation.

Kingston-on-Thames. ANDREW SOUTH.

The R.I.B.A. and Other Societies.

SIR,—I think that it is only fair to all that Mr. Guy Dawber should let your readers know the contents of the Bill that they are promoting to obtain the registration of architects, and the unattached architect will then be in a position to see what is in store for him.

What is the proposal? Is it to be in the form of the annual licence, as with house agents, auctioneers, appraisers and solicitors, and others? or do the present members of the R.I.B.A. get off and only those who become qualified after a certain date have to pay the annual fees? This, one would like to know.

It is certainly wise that the architect not in the R.I.B.A. should look after his own interests.

Witley. E. BOULTON.

SIR,—I have read the letters of Mr. E. G. Dawber (President of the R.I.B.A.) and Mr. W. F. Campbell in your issues of the 13th and 20th inst. respectively.

First I will deal with Mr. Campbell's letter. He says: "It would, however, be interesting to know what body other than 'my' association would safeguard the interests of the unattached practitioners and their assistants." My reply is: "The Faculty of Architects and Surveyors, which was founded by those who started the Incorporated Association of Architects and Surveyors, but are no longer with it."

With regard to Mr. Dawber's letter, in which he says that a new society is of no value to members of the allied societies, the extraordinary thing is that the R.I.B.A. paid little attention to allied societies until the formation of new societies. In the Landed Property Practitioners (Registration) Bill only "members of the R.I.B.A. and the Society of Architects" were protected, not a word of protection being extended to allied societies, with a result that means of livelihood were endangered. If the formation of new societies has resulted already in the R.I.B.A. taking notice of the allied societies in any new registration bill, then something has been achieved; but there is still a lot more for the "Faculty" to do. Every clause of the new registration bill must be closely watched, and care will be taken to protect our members. We know how the older bodies "protect" the unattached practitioner.

Some time ago the editor of *The Builder* suggested that the R.I.B.A. should give a reply to our criticism. So far I have seen no reply, except Mr. Dawber's letter; but if a reply is ever given, perhaps there will be added an explanation of the attempt recently made by chartered bodies to obtain educational monopolies in the Chartered Associations' Bill. The chartered bodies do not love isolated practitioners, and the latter are right to organise against chartered encroachments.

A. E. SOCKETT, Foundation President.

[*** See Note on p. 322.]

Doncaster Isolation Hospital Competition.

SIR,—As a competitor, I was interested to see in your journal of the 13th inst. illustrations of the designs placed first and second, although, having regard to the conditions of competition, I am unable to understand the award.

As I read the conditions, the aspect to be observed in respect of the ward blocks is not only made absolutely clear, but insisted upon. The designs referred to, however, do not adopt it.

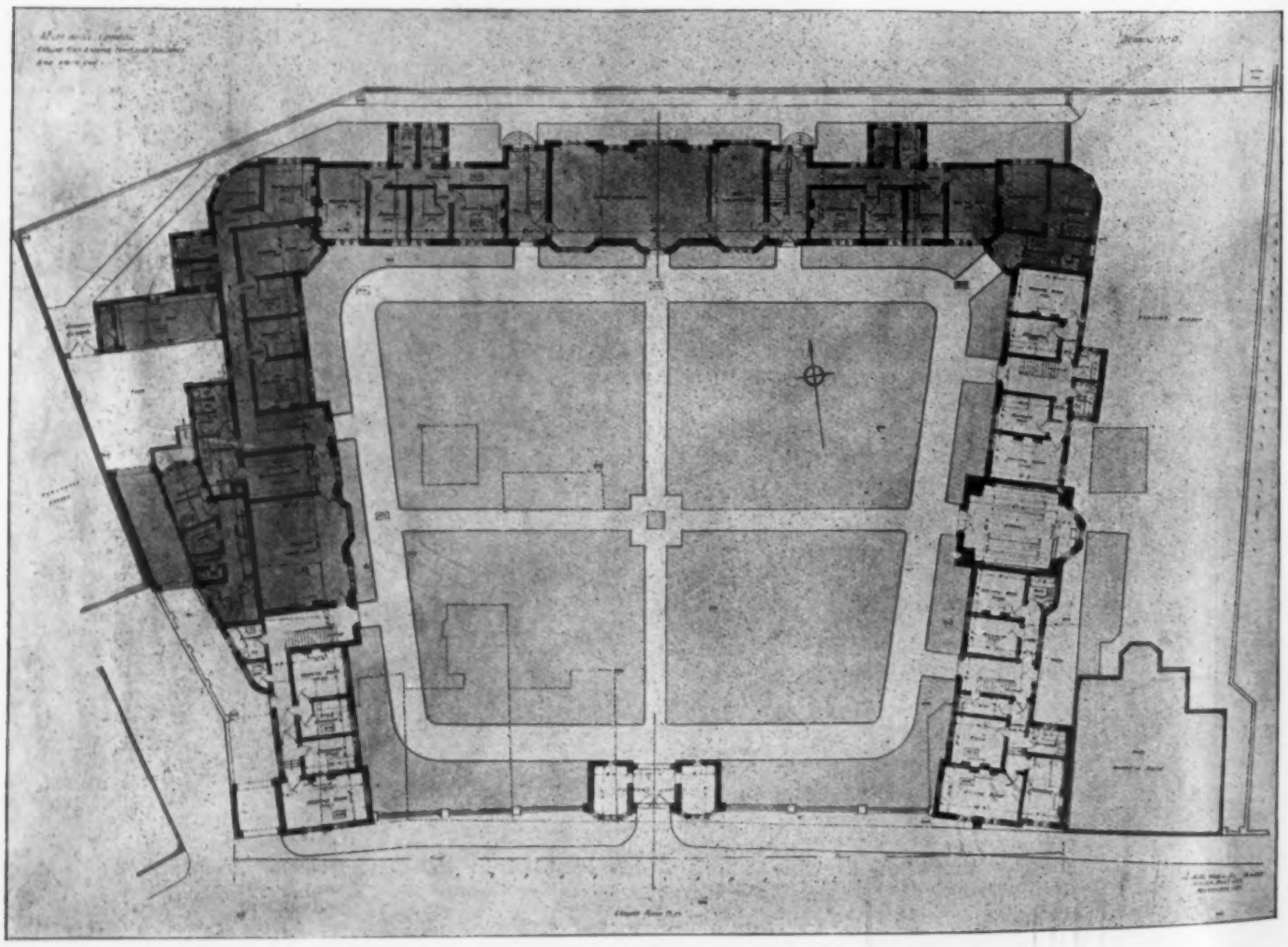
That condition forms the keynote for, and governs the lay-out of, the whole scheme. That being so, one would have thought that any competitor who disregarded so important and imperative a condition would, in any case, have been disqualified. HEALTH.

Clearing Away Slums.

SIR,—Referring to Mr. Lovegrove's letter in your last week's issue, may I remind him and your readers that the *no value* clause for buildings refers to buildings judged to be unfit for human occupation after representation by a Medical Officer of Health?

People should know by this time that it is unwise to hold such property. The Act of Parliament rightly declares that the only value is in the land for re-use on proper lines.

F. T.



Wesley Hostel, Cambridge. SIR ASTON WEBB & SON, Architects.

THE ANNUAL CONGRESS OF THE BRITISH ARCHÆOLOGICAL ASSOCIATION

VISIT TO CHESTER AND NORTH WALES.

By Rev. P. H. DITCHFIELD, M.A., F.S.A., Hon. A.R.I.B.A.

(*Continued from last week.*)

WEDNESDAY, JUNE 30th.

We started on our pilgrimage at 9 a.m., and the first stopping place was Tarvin church, a large building with side aisles and western fifteenth-century tower. The south aisle, with its Bruen chapel, formerly the chancel, is Decorated in style and is the earliest part of the structure. The contemporary screen, though crude in workmanship, is interesting as one of the earliest remaining in Cheshire. The lower panelling is a Jacobean addition and the cresting on the west side is modern. The roof of the chapel is coeval, and the later roof of the nave is particularly interesting and worthy of notice.

Leaving Tarvin, we noticed the beautiful half-timbered Duddon Hall, which has memories of some of the old Cheshire families. The manor was held in moieties between the families of the Bruens and Dones. The Hall was the residence of the younger branch of the latter, and was held by them long after the extinction of the elder branch. We should have liked to stay at Tarporley, where a battle was fought in the Civil War rather to the advantage of the Royalist forces. The old town had formerly a mayor, and has many features of interest, but we were obliged to content ourselves with a view of the church, surrounded by its fine old yews. It contains a monument to the memory of Sir John Done, who died in 1629, showing the knight in armour and his badge of office as hereditary chief bailiff, forester and bow-bearer of the Forest of Delamere. This badge was an ancient bugle horn, and passed with the office to Sir John Crewe and then to the Ardens.

ACTON CHURCH

is also a large one, with side aisles and engaged western tower. It suffered much during the Civil War, and was restored at the Restoration. Hence the late clerestory, the Jacobean and Carolean work in the upper stages, and in the internal fittings, excellent and distinctive of their kind, which give such an interesting and unusual character to the church. We noticed the early wide chancel arch, with continuous mouldings; the flat canopied ogee arched wall monument in the north aisle, with the very fine alabaster effigy of Sir William Mainwaring (died 1399); the ogee piscina and door in the south aisle, and the mutilated piscina and stall in the chancel. The whole of the woodwork is very remarkable, including the altar rails (1685), the low wainscoted screen (recently raised on a stone plinth), the parclose screen to the Dorfold chantry at the west end of the south aisle, with its seventeenth century effigies of Sir Richard Wilbraham (died 1645) and Elizabeth his wife (died 1661), and the early eighteenth-century pews.

Bear Inn, Sandbach.

Driving onwards towards Nantwich, we passed Dorfold Hall, the seventeenth-century brick-built house of the Wilbrahams, who play a prominent part in Cheshire history, and formerly of the Dorfolds, and then arrived at

NANTWICH CHURCH,

one of the finest in Cheshire. It exhibits the gradual change from the Decorated to the Perpendicular style in the chancel and in the chapel of the south transept. There was formerly a high pitched roof over the west window, the line of which remains. The south porch has a parvise and an east room. Attached to the north-east tower pier is a stone pulpit of about 1450 date. The Kingsley chapel in the south transept, of Early Perpendicular work, has remains of a piscina and fragments of ancient glass in the east window. In the choir are 20 canopied stalls of ancient workmanship, having seats with interesting misericords. These are said to have been brought here from Combermere Abbey. On the north side of the chancel is a low door leading to the sacristy, formerly a priest's chamber, beyond which is a crypt partly underground. It has a piscina and aumbry indicating an altar. The sacristy has an upper chamber, one of its windows, formerly a door, looking into the chancel. The octagon tower contains inscribed bells dated 1713. The plate includes two chalices given in 1605 and 1633, two flagons given in 1639, and a silver paten of the same period. We noticed some old glass and ancient trunk coffins of the thirteenth century. The church was restored by Sir Gilbert Scott.

The word *wich* usually denotes salt, and Nantwich abounds with salt. Beneath the surface is sand and briny water. Hence burials are difficult in the churchyard, and some houses in the town subside or lean against each other. There are some quaint old street-fronts, more particularly Church's Mansion, a fine half-timbered house, erected in 1577. It has carved work and wainscoting, and was originally moated.

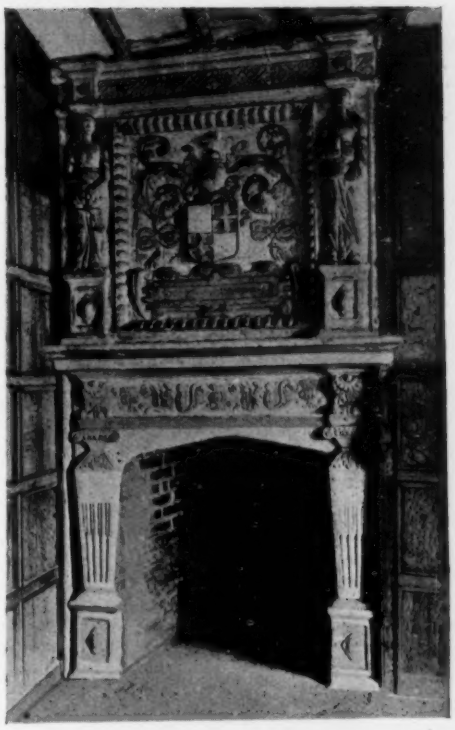
Journeying on to Sandbach, we passed another half-timbered Elizabethan hall, at Haslington, formerly the home of the Vernon family. Sir Ralph Vernon, Baron of Shipbrook, was called "the Old," as he is said to have lived 150 years. The last heir-male was Sir George Vernon, who was one of the Barons of the Exchequer in 1631. His daughter and heir married one of the Derbyshire Vernons.

THE CROSSES OF SANDBACH

were described by Mr. F. Simpson, who said that they had been all broken, and that at the beginning of the nineteenth century Sir John Crewe and Sir John Grey Egerton collected the fragments and placed them in their present position. Some of the panels showed the Baptism of the Saviour, John the Baptist, the Nativity, the Virgin enthroned. The greater cross is 22 ft. 2 in. in height, and the smaller 17 ft. 5 in. The "Bear Inn" is a good example of Cheshire "Magpies." After a far too brief examination of the curious structures, we passed on to

LITTLE MORETON HALL,

the finest specimen of a timbered house in Cheshire. Three sides only of the building are standing. The entrance is over a stone bridge, whence the portal of an ancient gateway admits to the court. The buildings over the gateway, reached by a winding staircase, are very lofty and appear to have been used as sleeping rooms, with the exception of the long gallery at the summit. The sides of the gallery are almost entirely composed of a series of bay windows. The roof is of oak, resting on brackets, and formed into square compartments filled with quatrefoils. The large hall runs the whole length of the house, and has an arched roof. It is lighted by a bay window, which forms five sides of an octagon. Opposite is the large open fireplace. There are traces of a minstrels' gallery. Beyond are the dining parlour, over the mantelpiece in which are the arms of Queen Elizabeth.



Moreton Old Hall, Cheshire.

On the east side is a small chapel divided by a screen into chapel and ante-chapel. The extreme length is 10 yards; the ceiling is very low. At the east end is a pointed window, and texts of Scripture are painted in black letters within compartments on the walls. The picturesque arrangement of the windows, the multiplicity of gables, the variety of ornamentation, the mouldings on the mullions and round the doors and the door-posts, the costumes and weapons of the billmen on the right and left of the gateway, excited our admiration. Some of the artists have immortalised themselves as an inscription over one of the windows shows. It runs as follows:—

"Rycharde Dale Carpenter
Mad this windowe by ye Grace of God,"

and another says:

"Made by William Moreton."

Luncheon was served in the old hall, so the pleasant surroundings added to its flavour.

ASTBURY CHURCH

is one of the finest in Cheshire, consisting of a nave and chancel, with aisles and a tower of Early English origin surmounted by a spire. It is mainly Decorated and Perpendicular. There are three porches, each retaining its mediæval door. The nave, of thirteenth-century date, is divided from the aisles by arcades without capitals, and has large clerestory windows of four lights without cusps. The roofs are interesting. The nave and south aisle have cambered beam roofs, panelled and enriched with carvings and bosses (1616), the north aisle roof being a raftered lean-to, simpler in character and of the date 1701. The church is particularly rich in woodwork, including a fine rood screen, retaining its coved support to the loft. There are also an excellent parclose screen, stallwork, and contemporary lectern. The post-Reformation fittings include the altar table, altar rail and

a unique font cover and tester. There are some pre-Reformation effigies and late seventeenth-century pews. Some of the effigies have been banished to the churchyard. The President strongly advocated their return to the church.

As we drove along we noticed the beautiful half-timbered Shawcroft Hall, and at OVER PEOVER HALL visited the Mainwaring chapels of the church, which contain some interesting Jacobean and modern woodwork and four mediæval alabaster effigies of exquisite workmanship, complete in every detail of the costume and armour of the periods 1410 and 1456. Also, there are two seventeenth century effigies and two slabs executed in 1586. The stables are curiously remarkable, and though now devoid of steeds are the most luxurious I have seen. There are wonderful stalls and ceilings, and there is an inscription which records:

The Gift of
Mrs. F. M. Mainwaring
to her son Thomas Mainwaring
1634.

LOWER PEOVER CHURCH is a typical and picturesque example of the black and white timber churches in Cheshire, much restored in 1852. The north aisle is of early date, and the western tower was built in 1562. The interior looks very primitive with its low roof, the divisions of the aisles being formed by entire trunks of trees, from which side arches spring. The chancel is continuous, but is marked by a low open-work screen of Jacobean date, with contemporary screens and chapels in the north and south aisles, one of the latter, the Shakesley Chapel, being separated by a heavy baluster screen with gates. The church retains its early pewing, with doors opening at half height, a survival of the days when the floor of the church was strewn with rushes.

Our next stopping place was

TABLEY HALL,

where we were welcomed by Major C. Leicester Warren, J.P., and stayed to tea. There are two Tabley Halls, the modern Hall, where our host resides, and the Old Hall, which dates dack to 1367. This Sir Peter Leicester thought of pulling down, but a clause in the deed prevented him from doing so; otherwise the property would have passed to St. John's College, Cambridge. In the new hall there is a fine collection of paintings and family portraits by the great English masters, Sir Thomas Lawrence, Opie, Romney, &c., and a landscape of Tabley Mere by Turner.

The return journey was then made to Chester.

THURSDAY, JULY 1.

This day was devoted to the City of Chester, under the guidance of Mr. Frank Simpson, F.S.A., and began with a visit to

THE CASTLE.

The story dates back to very early times. Ethelfreda, daughter of King Alfred, in A.D. 907 enlarged the extent of the city walls in such a manner as to include the Castle. This structure was of timber. William the Conqueror repaired the walls and built the Castle, partly of stone and partly of timber. In 1246 Henry III. ordered the wooden fence of the Castle to be removed and to be enclosed with stone. Some Norman masonry was noticed on the north-west side of the upper bailey. The Castle has been much modernised, as the buildings of the lower bailey, commenced by Henry III in 1251 and continued by his son Edward, who employed Richard the Engineer, were taken down in 1789. The chief archæological feature is Cæsar's Tower, which has Early English vaulted chambers. It contains three apartments, a crypt on the floor level, supporting a fine stone vaulted chapel, and a third chamber above, from which the brick vaulting has recently been removed. The chapel was used as a store-room for 300 years. In 1921 the work of restoration commenced, and was completed and the chapel re-opened on May 25, 1925. It is now used by the men of the Cheshire Regiment and their families for Holy Communion and other services. The interior of the chapel was entirely covered with 14th century mural paintings, which have almost entirely disappeared, but when damped exhibit all their former beauty and colouring. The authorities are to be congratulated upon this great work of restoration in which our guide, Mr. Simpson, took a leading part.

We then walked to the

CHURCH OF ST. MARY-ON-THE-HILL,

where we were met by the Rector, the Rev. T. E. Evans. The style is mainly fifteenth century. The earliest portions are the chancel and tower arches. A church stood here in the twelfth century, but no trace of it remains. The windows are decorated. The building is the garrison church. In 1861 the tower was raised. In 1659 it was ordered that the steeple should be pulled down, but a strong protest was made and it was saved. There are traces of painting on the east wall of the south aisle. The nave Tudor roof is supposed to have been brought here from Basingwerk Abbey in 1535. It was restored in 1901. The destructive beetle had done considerable damage. The south chapel is known as the Troutbeck chapel, built in 1433, and there is some old glass, the only ancient glass in any church in Chester. In the north chapel are the Gamul and Oldfield monuments. The name of Randle Holmes, antiquary, herald, and historian, is preserved by a monument in the north aisle. In the south aisle is an oak cupboard brought here from the old St. Bridget's church, with a brass relating to an ancient Bread Charity for giving loaves to twelve poor men.

A visit was then paid to the

GROSVENOR MUSEUM.

Professor Newstead described the Archæological Museum, which contains many Roman inscribed stones and much else of great interest which lack of space prevents us from describing. The Natural History Museum was described by his son, Mr. A. Newstead, and Mr. E. C. Brown (the Hon. Librarian) exhibited some rare books,

Moreton Old Hall, Cheshire.

22, 24, 26 and 28, Bridge St., Chester.

MSS. and deeds, belonging to the Chester Archæological Society.

After luncheon, we met at the south porch of the Cathedral, where we were received by the Dean, the Very Rev. F. S. M. Bennett, who conducted the party to the refectory and gave an address on the Cathedral. He has done excellent work in restoring the Refectory. Chester Cathedral is so well known that it is unnecessary to describe it here. The Dean hospitably entertained us to tea.

In the evening, Professor Newstead lectured on "Some Roman Archæological Remains in Chester."

FRIDAY, JULY 2.

This day was spent in a long tour in North Wales, visiting some remarkable buildings, abbeys, castles, and churches. Leaving Chester by the Grosvenor Bridge, we soon arrived at

MOLD CHURCH.

Mr. Lovegrove was again the conductor of the party and Mold was described by the vicar. It is a noble Perpendicular church about 1450, showing Welsh and Cheshire peculiarities of detail—Cheshire in the great width of the aisle window and Welsh in the lavish surface decoration of the interior, the breadth of the mouldings of the four-centred arches of the nave, the "cat-and-dog" cornice that surmounts them and the elaborate roofs. Tradition states that the church was built as a thank-offering for the victory of Bosworth Field. The apse was erected in 1856 by Sir G. Scott. The tower, erected in 1773, is not original, but a good imitation. The older building was erected in 1291, and perhaps the west end wall dates from that time. The present building is typically Tudor and is remarkable for its graceful symmetry. The roof is fine and there is some good stained glass of the fifteenth and sixteenth centuries. The Elizabethan window in the north aisle illustrates the Legs of Man and the Eagle and Child, both badges of the Stanleys. The modern glass is rather glaring. At the east end of the aisles there are niches and a statue of the Blessed Virgin and Child, which is known as "the Living Image." Richard Wilson (1714-82), the landscape painter, a native of Mold, is buried in the churchyard nigh the north door.

After bidding farewell to the vicar, the Rev. D. Edwards Davies, we motored to Bailey Hill, a Norman Motte, the home of the Barons of Montalt, from which name Mold may be a corruption. The castle was reduced by Owen Gwynedd in 1147, and this success was described as "one of the sweetest triumphs that the Welsh ever won." A grand view was obtained of the mountain, Moel Famma (1,860 ft.). Soon we climbed the hill to Caerwys, where there is a church with a square embattled tower, some relics of ancient glass, and an old rood-screen. This is probably the Roman *varæ* of the Antonine Itinerary. We pass a place with a name that sounds strange to English ears and defies pronunciation — Firth-y-Garreg-Wen — where there are a number of tumuli; and then we arrive at one of the wonders of Wales.

MAEN ACHWYFAN,

a fine wheel cross, in almost perfect preservation, the finest of its kind in Wales. It was described by a Welsh authority, Mr. Harold Hurst, F.S.A., but lack of space forbids its description here. It is somewhat difficult of access, and attention was drawn to this, and a better road advocated.

A drive of half-an-hour conveyed us to

RHUDDLAN CASTLE.

The town is famous as the place where Edward I enacted in 1284 "the Statute of Rhuddlan," providing for the government of the conquered principality. Here also Queen Eleanor gave birth to a princess. Mr. Harold Hurst described the rapid conquests of the King owing to the death of Llewelyn. He built a ring of castles to hold the country—Conway, Carnarvon, Beaumaris, &c. Rhuddlan was built after the Edwardian plan of concentric fortification. In 1295, there was a rising of the Welsh, who took Carnarvon, but Rhuddlan resisted strongly. It was guarded on the west by the river, and on the other side by a moat partly filled with water by the tide and partly by the river, with an important water-gate on the river side. The gateway stood at an angle, and there were projecting towers. The fortifications were not elaborate. There are no signs of a chapel. This place is the site of a battle fought in 965 A.D. between Offa and Caradoc. Here King Richard II was held as a prisoner by Henry of Lancaster on his way to Flint Castle.

At length the Cathedral City of St. Asaph was reached. It is little more than a village and the cathedral is the smallest in the kingdom. After luncheon at The Plough Inn, we crossed the bridge that spans the Clwyd and climbed the hill leading to

ST. ASAPH CATHEDRAL,

which has a plain but dignified exterior, with a massive central tower. The Dean described the history of the building, Mr. Lovegrove the fabric, and Canon Fisher, D.Litt., F.S.A., the Library. The Dean said that the real charm of the building was its historical interest. The See was founded by St. Kentigern, the Scottish name of St. Mungo, in A.D. 560, whose successor was St. Asaph. Owing to the turbulence of the time no other bishop is recorded until 1143, but after that date the succession is regular and complete. Giraldus visited the cathedral in 1188 and described it as *paupercula sedes Lanelvensia Ecclesia*, and shows afterwards it was destroyed by fire. In the thirteenth century it was built on the present lines, but destroyed by the English soldiers of Edward I. Bishop Anion, who was a Dominican friar of Rhuddlan, rebuilt it. The ground on which it stands has been often fought over. Owen Glendower caused much damage, destroying the woodwork in 1402, but the church was re-roofed by Bishop Redman (1471–96). During the Civil War Cromwell's troopers stabled their horses in the Cathedral and used the font as a drinking trough. In 1676 a great storm and tempest blew down the tower, and it had to be rebuilt, and the choir was barbarously remodelled about 1780. A very heavy restoration by Sir G. Scott was done in 1867–75. The present tracery of the east window was copied from a window at Tintern. Lack of space prevents a longer description of the building and of the contents of the Library housed in the south transept, which is so lovingly and carefully cared for by Canon Fisher.

An interesting visit was then paid to

HOLYWELL,

the well of St. Winifred, "the Lourdes of Wales," and counted as one of "the seven Wonders of Wales." The legend of the saint is well known and need not be here recorded. The chapel over the spring is an exquisite and beautiful example of Perpendicular architecture and is supposed to have been built by Margaret Beaufort, the mother of Henry VII, the "Lady Margaret" of many learned institutions founded by her munificence. The spring, with its buildings, belongs to the town, and is rented by the Roman priests who preside over the institution and minister to the pilgrims. Father Jinks, S.J., one of the priests in charge, ascended the little pulpit and addressed us. The strange external frieze of small animals resembles those at Mold. Among the carvings over the wall are scenes from the life of St. Winifred, but the carvings are in process of decay. Among the carvings are the arms of the Stanleys, the Legs of Man, a dragon, wolf, rose and pomegranate for Queen Katherine of Braganza, Margaret of Richmond, and Richard III. The chapel was served in pre-Reformation times by the monks of Basingwerk Abbey, and at the Reformation the priest stuck to his duty. James II and Mary of Modena visited the well, and after the Revolution a Sunday school was held in the chapel above the well.

The company drove on to

BASINGWERK ABBEY,

founded *c.* 1131 by Ranulph II, Earl of Chester, for the monks of the congregation of Savigny and was reformed and attached to the Cistercian Order in 1147. Mr. Lovegrove described the ruins and submitted an excellent plan. The whole monastery was almost rebuilt in the thirteenth century. Of the Early English church there remained part of the south aisle of the nave, the south transept and the intervening arch. Of the monastic buildings there survive the east part of the chapter house, some fragments of the dormitory and its sub-vault, the bulk of the refectory, which runs north and south from the south of the cloister, and has some good internal arcading on its west interior wall, and part of the calefactory to the east of it. These date mainly from the latter part of the thirteenth century. The buildings are now in charge of H.M. Office of Works, and excavations are still in progress.

Tea was partaken of at the Red Lion Hotel at Northop, which has a parish church notable for its splendid western tower erected early in the sixteenth century, 98 ft. high, and the panelled chancel arch. There are three mediæval recumbent effigies in the church.

HAWARDEN CHURCH

was the last place visited. It has been almost entirely rebuilt after the disastrous fire of 1857. The old work remaining is of the first half of the fourteenth century. The church is associated with the great statesman whom we used to call the "Grand Old Man," who used to attend and read the Lessons when he was in residence at Hawarden Castle. A small brass commemorates the seat where Archbishop Benson sat when he died during service. The west window is by Burne-Jones, and a rood by Gilbert Scott has been erected commemorating W. E. Gladstone and Lieut. W. G. C. Gladstone (killed in action during the Great War in 1915). There is a massive monument with recumbent effigies of Mr. and Mrs. Gladstone in the north aisle. We did not see the modern castle, nor the ruins of the ancient one, which dates from the reign of Henry III, and was from 1454 to 1653 the seat of the Stanley family, the Earls of Derby. A glimpse was caught of the St. Deniol's Library, founded in 1896 by Mr. Gladstone as a home for theological students, which in 1902 found a new home erected by public subscription.

We then returned to Chester and in the evening listened to an excellent lecture on "The Chester City Guilds," by Mr. Frank Simpson.

Lower Peover Church.

Maen Achwyfan Cross.

SATURDAY, JULY 3.

On the last morning of the Congress, before returning homeward, the members were conducted, under expert guidance, to visit the walls, gates and posterns, the Roman architectural remains *in situ*, and the famous Rows and old houses of the city. Our guides were Professor Newstead and Mr. F. Simpson. So ended the Congress of the British Archæological Association for 1926. It was greatly enjoyed by all who were privileged to take part in it, and the cordial thanks of the Association and of each individual member are due to our friends at Chester, who, by their great exertions, contributed so largely to its success.

[The illustrations which appear in this report are reproduced mainly from photographs taken by Mr. Ernest A. Kent, a member of the Association, during the Congress week. Our thanks are due to him for permission to reproduce them.]

Town Planning at Doncaster.

A town-planning scheme just completed by the Doncaster Corporation indicates that a great housing scheme is planned on the moor near the St. Leger course. The scheme shows that, although Doncaster has a large unbuilt area, only 20,000 more people can be accommodated within the present boundaries, which will have to be extended. Doncaster has many millions of tons of coal beneath its surrounding coalfield, and the regional survey was undertaken in order that when Doncaster becomes a great coal centre it shall not repeat the mistakes made by the older large cities.

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ILLUSTRATIONS

Cairo Cathedral.

This design was prepared in 1920 for the "Old Ismalia Palace" site. This site has now been given up, and negotiations are in progress for the acquisition of another site, situated in a commanding position on the bank of the Nile, for which a modified design is being prepared.

The practical requirements of a cathedral in a hot country like Egypt present quite a number of new problems, and the necessity of providing free entry and exit for the prevailing cool N.N.W. wind, so that this may circulate freely among the congregation, dictates a large number of openings near floor level at both sides of the building, and controls the lay-out and aspect of all the subsidiary buildings, as well as of the cathedral itself. Building conditions are also very different, costs being low compared with current English prices, while labour and materials are plentiful, but all of poor quality; and the Nile valley consisting of nothing but fine black earth, subject to saturation at high Nile seasons, necessitates also novel forms of concrete piles for foundations—all of which points have to be considered in the design.

A large proportion of the money required is in hand, but an appeal has just been launched under the auspices of Lord Lloyd, the High Commissioner, for a further £30,000, so that this cathedral may be made a worthy memorial to all those who fell in the Eastern theatres of the Great War, and it is hoped to start building operations very shortly.

In the scheme illustrated the necessary diocesan buildings were all incorporated into one design with the cathedral itself, and the campanile was proposed at the focal point of the main approaches to the site; after this drawing was prepared, however, the main cathedral entrances were altered in design.

A. GILBERT SCOTT.

New Premises, Piccadilly.

The illustrations show the new premises which are to be erected for Messrs. Fortnum & Mason, Ltd., at Nos. 181–184, Piccadilly, Nos. 22–27, Duke-street, and Nos. 41–47, Jermyn-street, W. The building is to be steel framed with fire-resisting construction throughout. It is to be erected in three sections. The portion facing Jermyn-street is to be completed first; then the Duke-street frontage is to be proceeded with, and lastly that facing Piccadilly.

The building is to comprise six floors, and in addition there will be two basements; the foundations for these will be 30 ft. to 35 ft. below pavement level. There is a fall of over 6 ft. from the Piccadilly to the Jermyn-street front, of which advantage has been taken to provide a mezzanine floor which extends over the entire area of the first section to be built. There are to be two staircases which will serve all floors including the basements. The main stairs for customers will be provided with two lifts.

The stone piers, the stone architraves to windows, the quoins and cornices will be in Portland stone. From the first floor upwards the walls will be faced with 2 in. mottled hand-made sand faced facing bricks. The roofs will be covered with hand-made "Italic" pantiling.

The elevations of the new premises are to be designed in keeping with the academic and historic traditions of Piccadilly. On this elevation some sculpture panels will be introduced illustrating some famous and historic customers, including the pioneers of the firm. Messrs. Wimperis, Simpson & Guthrie are the architects.

Messrs. Foster & Dicksee, Ltd., are the general contractors, and Messrs. Redpath, Brown, Ltd., are the constructional engineers.

Wesley Hostel, Cambridge.

We give this week illustrations of the Wesley Hostel, Cambridge, the architects for which are Sir Aston Webb & Son.

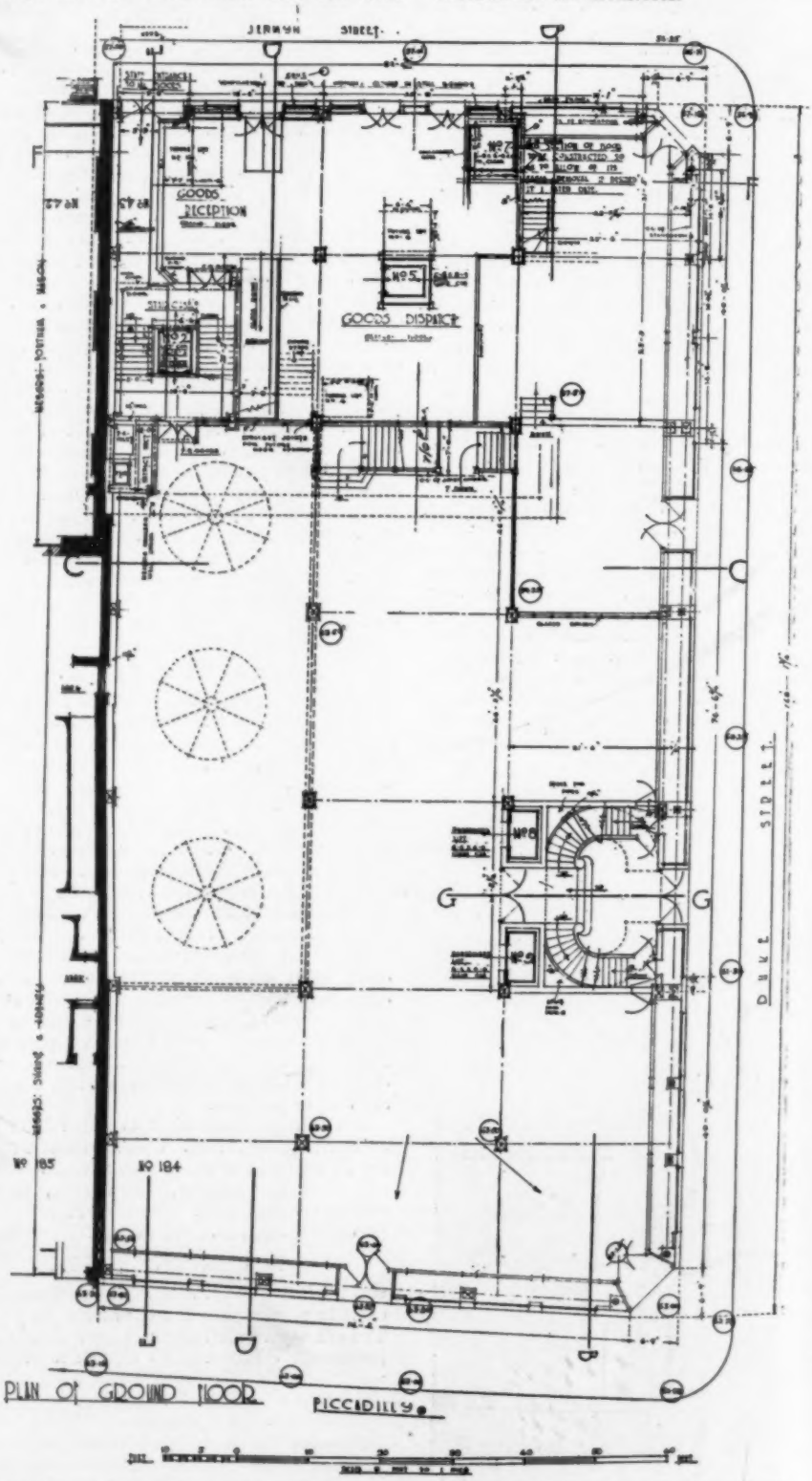
Church of the R.M. Depot, Deal.

The church of the Royal Marine Depot, Deal, was designed by Mr. Philip J. Marvin, when in the service of the Admiralty. The plan gives seating for 1,000, all in the nave and chancel, the narrow aisles serving as passages. The materials are red brick inside and out with Portland stone dressings outside. The foundations were put in by departmental labour, the contractor for the superstructure being Mr. C. E. Skinner. The tiles and mosaic were done by Messrs. Craven, Dunhill & Co.; the wood block flooring by Geary, Walker & Co.; the heating by Messrs. Wood & Co.; and the gas lighting by Messrs. Jones & Willis. The estimate was £11,000, and the total cost £10,000. This was before the war.

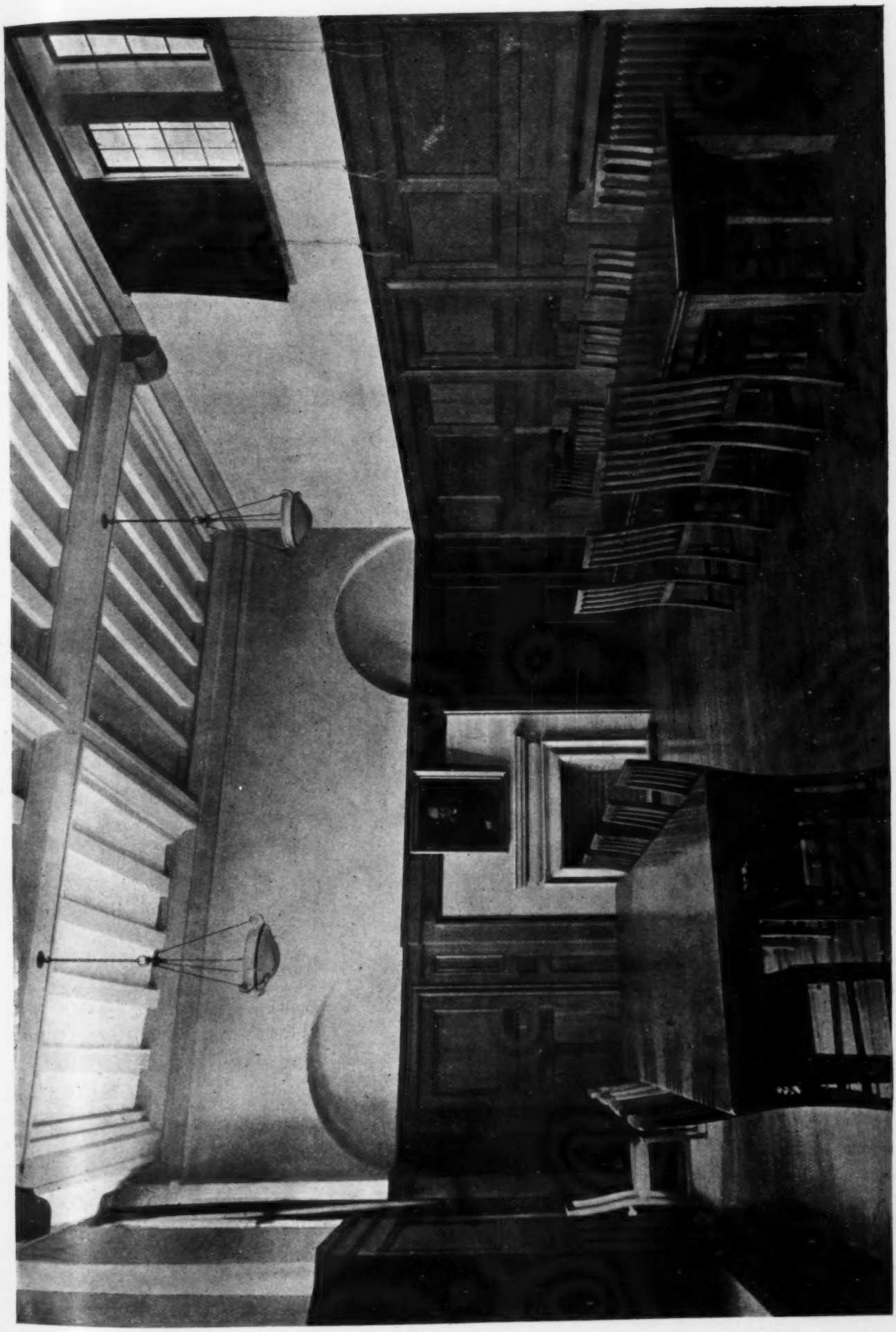
St. Cuthbert's Church, Grimscar.

St. Cuthbert's Church, Grimscar, a district of Huddersfield, is built of Crosland Moor stone. The roof timbers are of Columbian pine, and the slates are from the Westmorland quarries.

The general contractors were Messrs. Wimpenny, of Linthwaite, the heating engineers Messrs. Edgar Fitton & Co., of Manchester. The glazing is by Mr. Jennings, of 96, Clapham road, S.W., and the casements by Messrs. Burt & Potts, of Westminster. Messrs. Hoar & Wheeler are the architects.

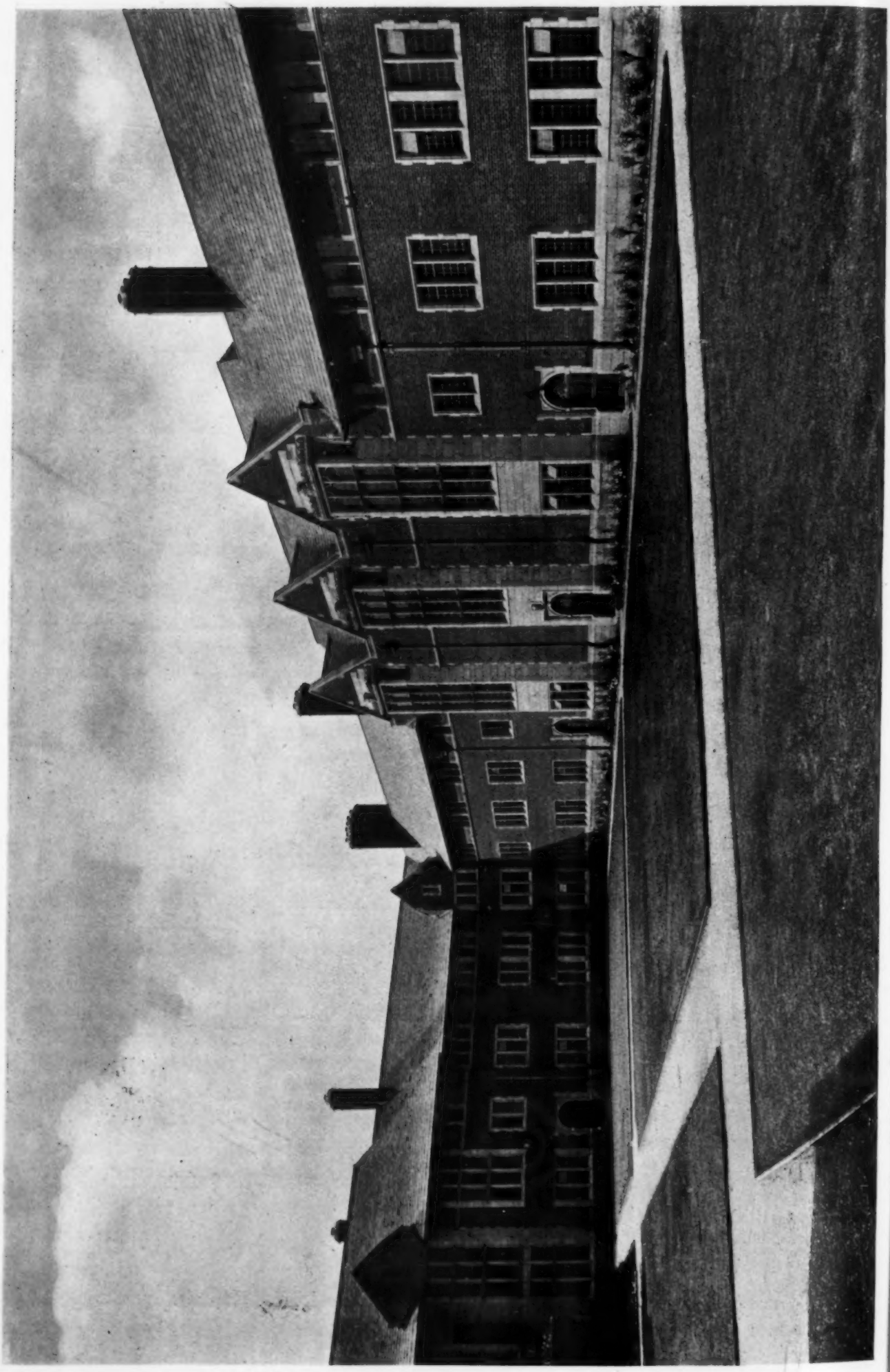


New Premises, Piccadilly. MESSRS. WIMPERIS, SIMPSON & GUTHRIE, Architects.



Wesley Hostel, Cambridge : The Dining-Hall.

Sir Aston Webb & Son, Architects.

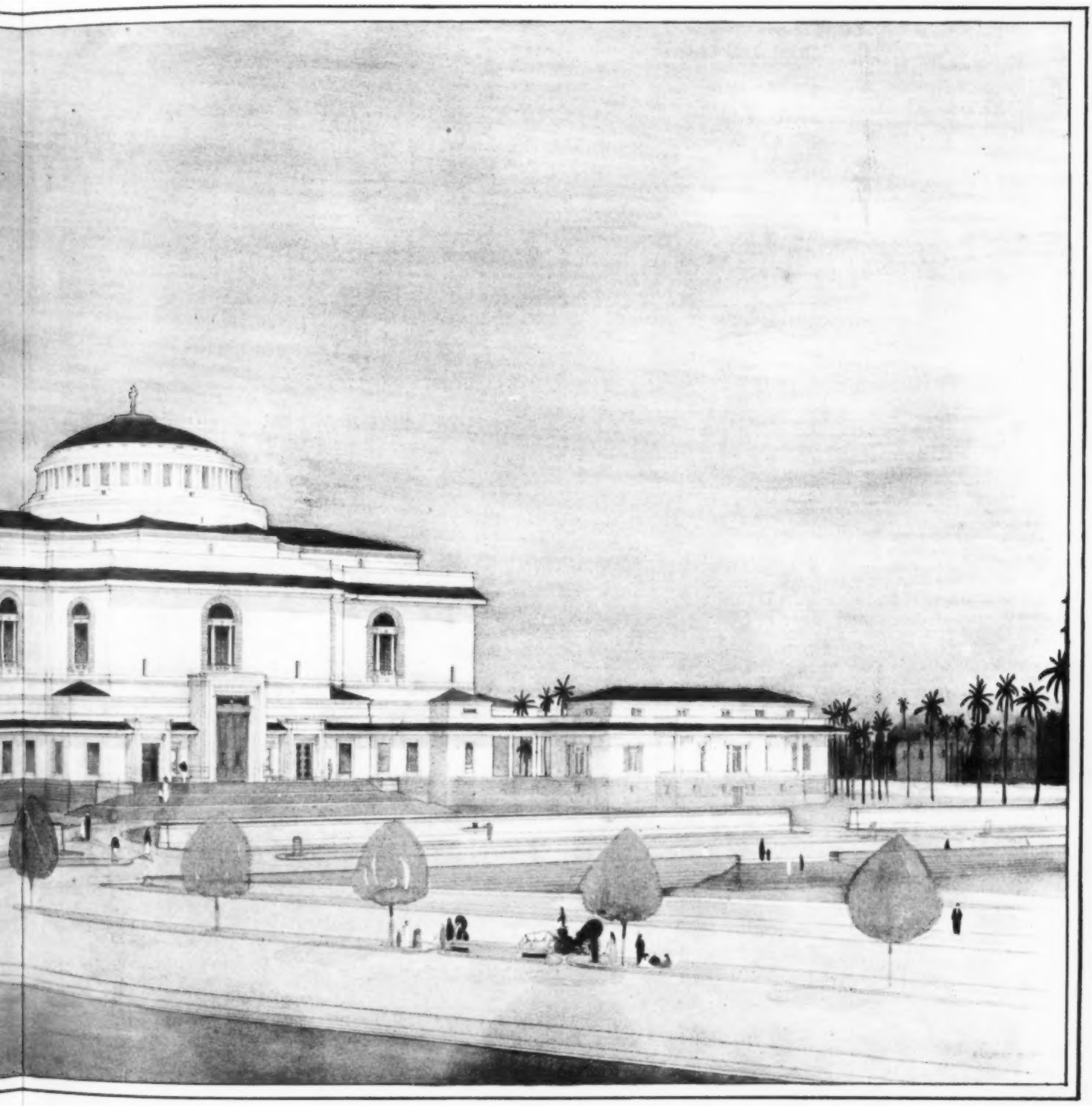


UNIV. OF MICH.

R.A. EXHIBITION.

CAIRO CATHEDRAL: THE 1920 DESIGN FOR THE KASR E

MR. ADRIAN GILBERT SCOTT, ARCH



FOR THE KASR EL NIL SITE, NOW SUPERSEDED.

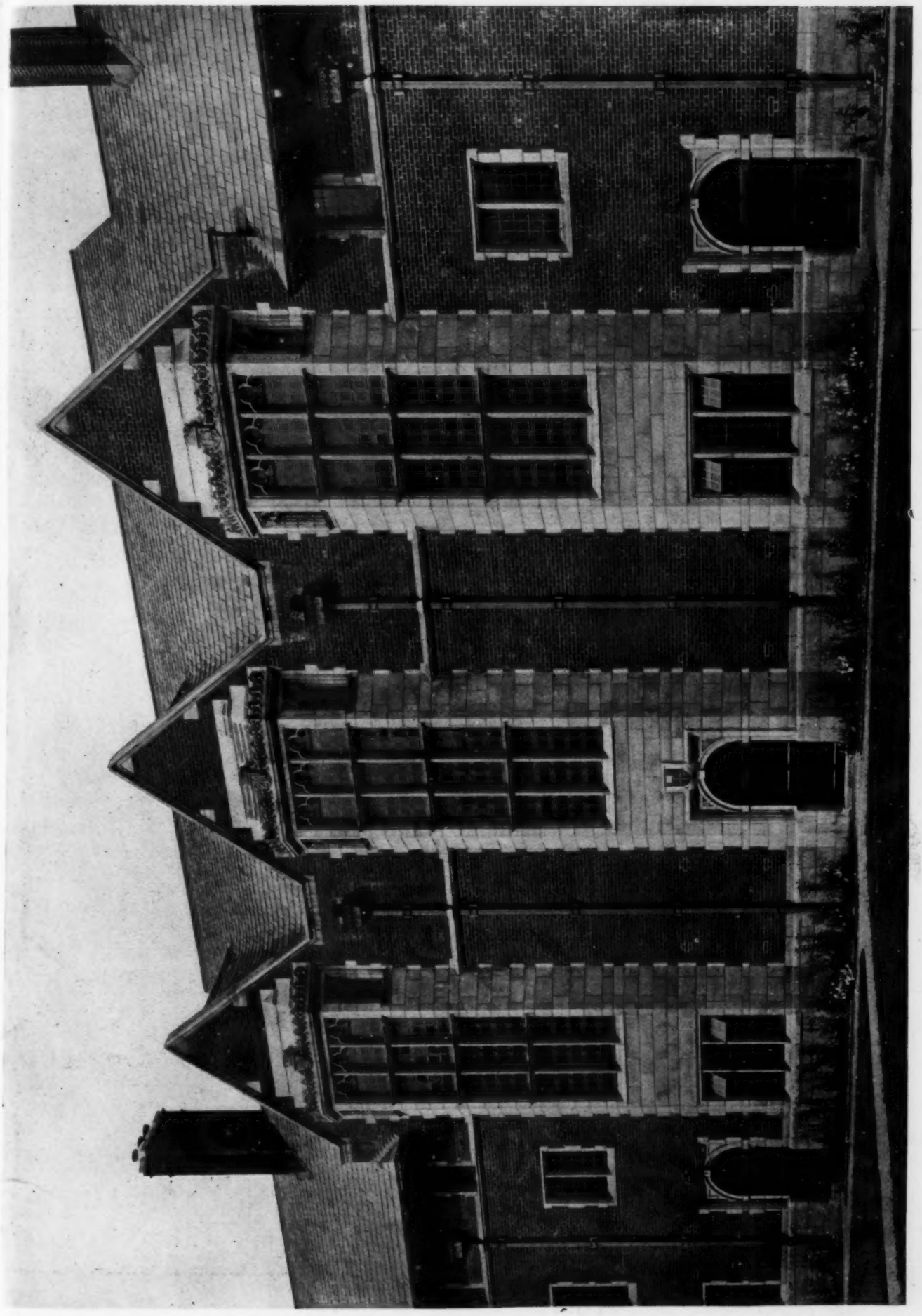
BERT SCOTT, ARCHITECT.

R.A. EXHIBITION.

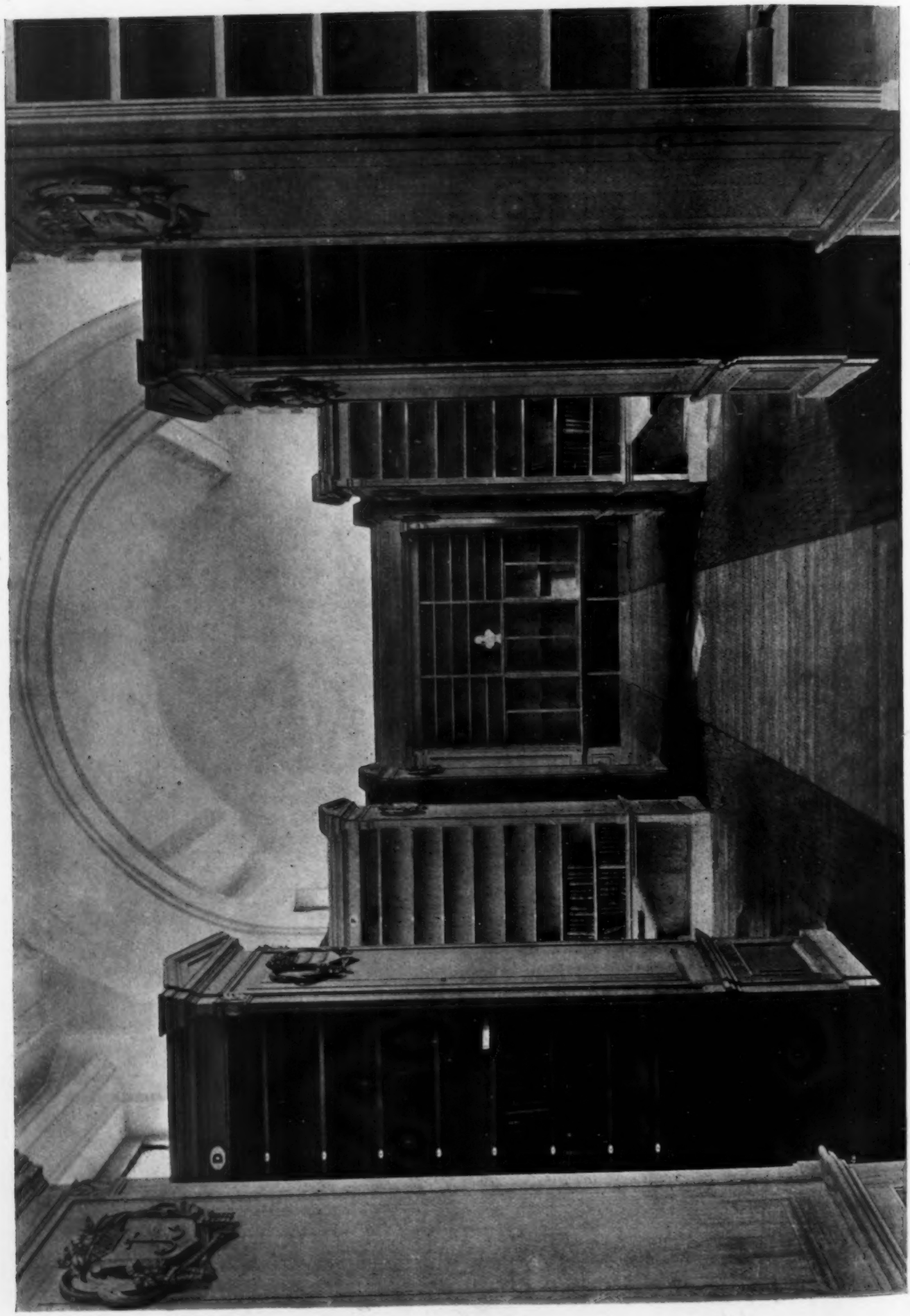
NEW PREMISES, PICCADILLY, W.

MESSRS. WIMPERIS, SIMPSON & GUTHRIE, FF.R.I.B.A., ARCHITECTS.

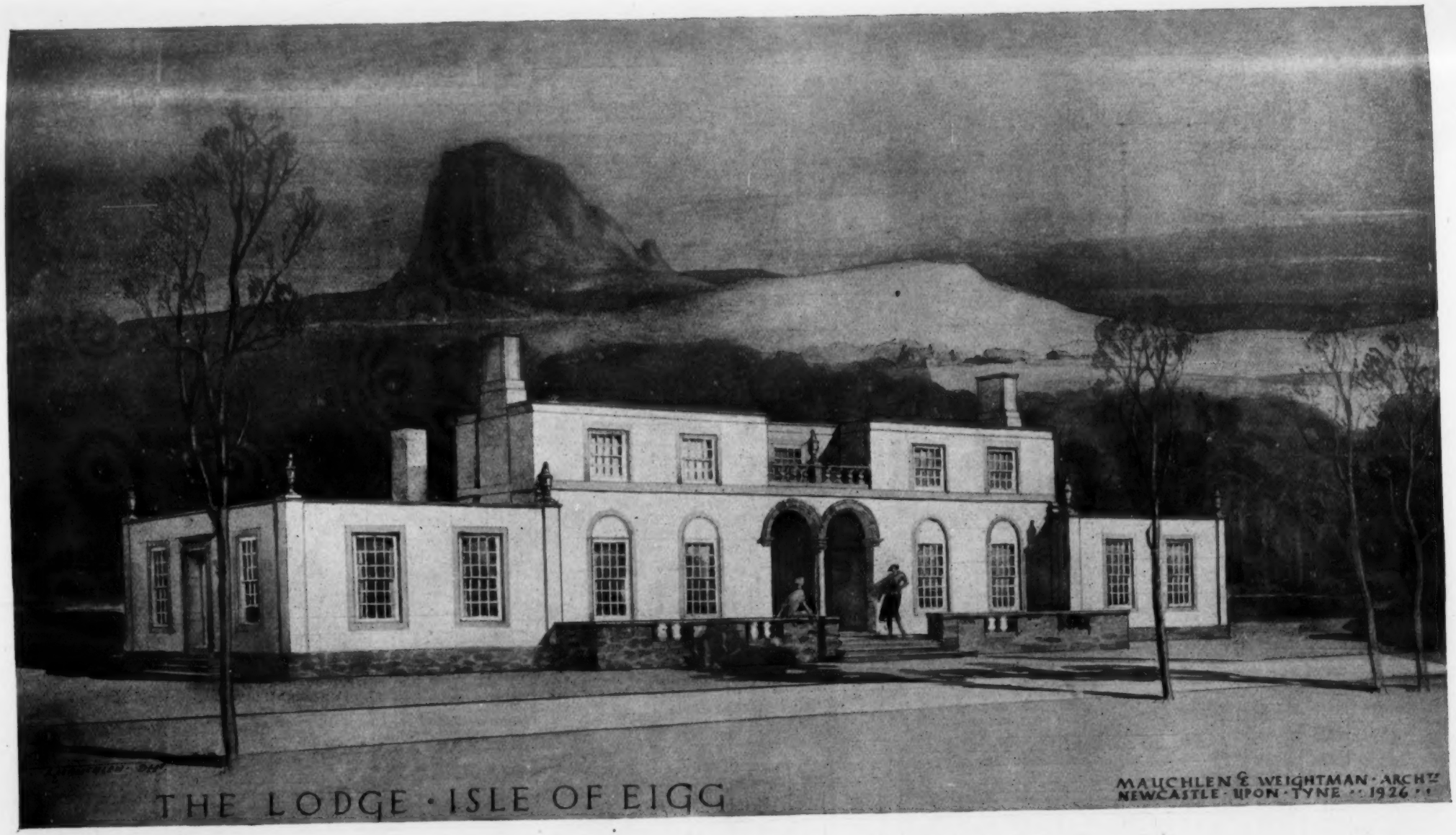
UNIV. OF MICH.



Wesley Hostel, Cambridge: Detail of Main Front.—Sir Aston Webb & Son, Architects.



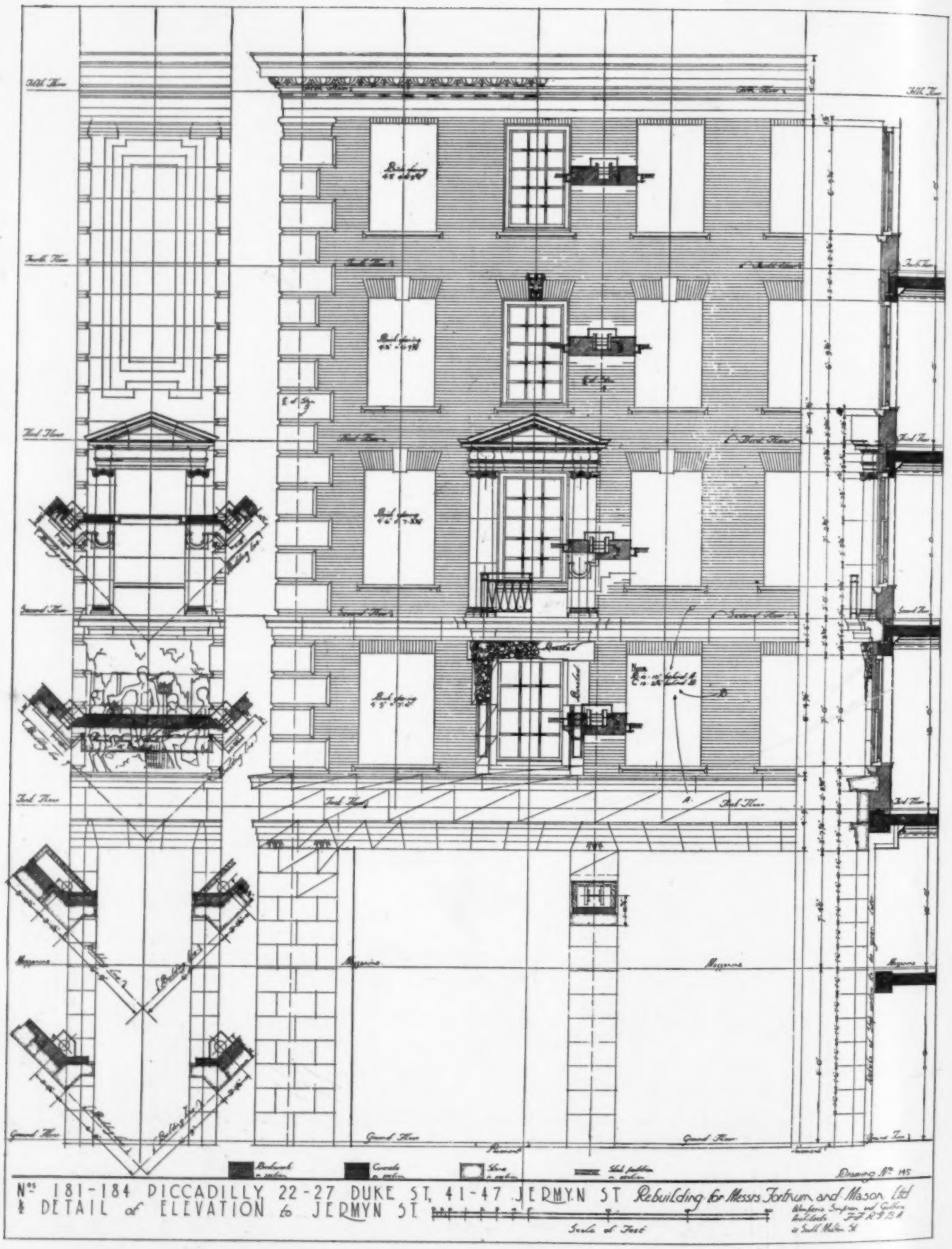
Wesley Hostel, Cambridge: The Library. Sir Aston Webb & Son, Architects.



The Lodge, Isle of Eigg. Messrs. Mauchlen & Weightman, Architects.

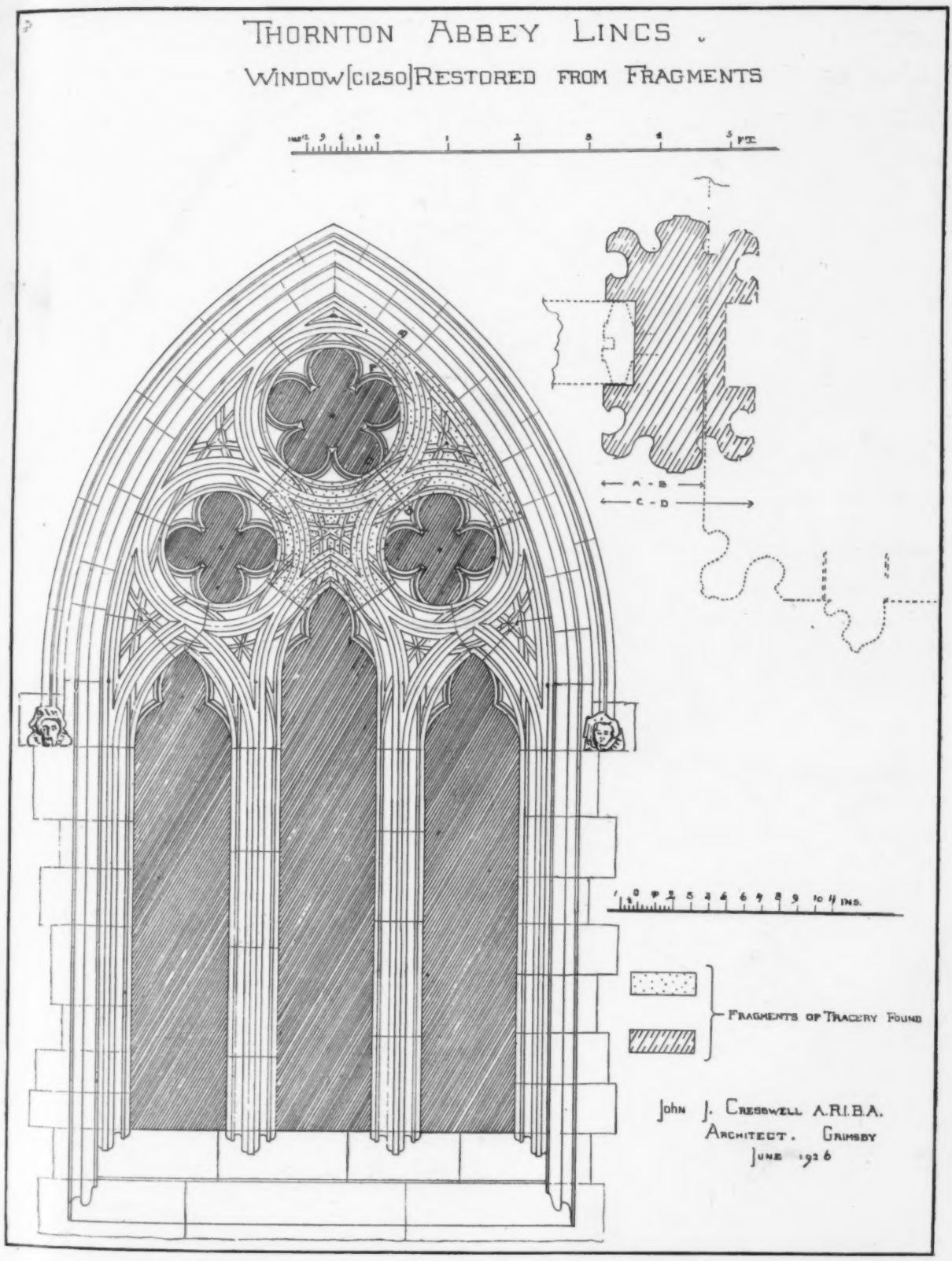
The lodge for the most part will be built on existing foundation walls, all that remains of a previous residence destroyed by fire some years ago. There is no suitable building material on the island, and everything has, therefore, to be transported by boat from the mainland. The walls will be built of brick covered externally with waterproofed harling. Stone is used to copings, doorways and balustrades. The whole of the roof is flat and covered with rock asphalte.

The general contractors are Messrs. George Reid & Son, Catrine, Ayrshire, N.B. The heating and plumbing is by Messrs. H. Braithwaite & Co., Ltd., Leeds; the oak flooring by Messrs. A. M. Macdougall & Son, Glasgow; asphalting by Messrs. Thomas Faldo & Co., Ltd., London; and electricians, Messrs. Gilbert Gilkes & Co., Ltd., Kendal. The architects are Messrs. Mauchlen & Weightman, Newcastle-on-Tyne.


Nos 181-184 PICCADILLY 22-27 DUKE ST, 41-47 JERMYN ST Rebuilding for Messrs Fortnum and Mason Ltd
& DETAIL of ELEVATION to JERMYN ST
Drawing No 145
Scale of Feet

Premises, Piccadilly.

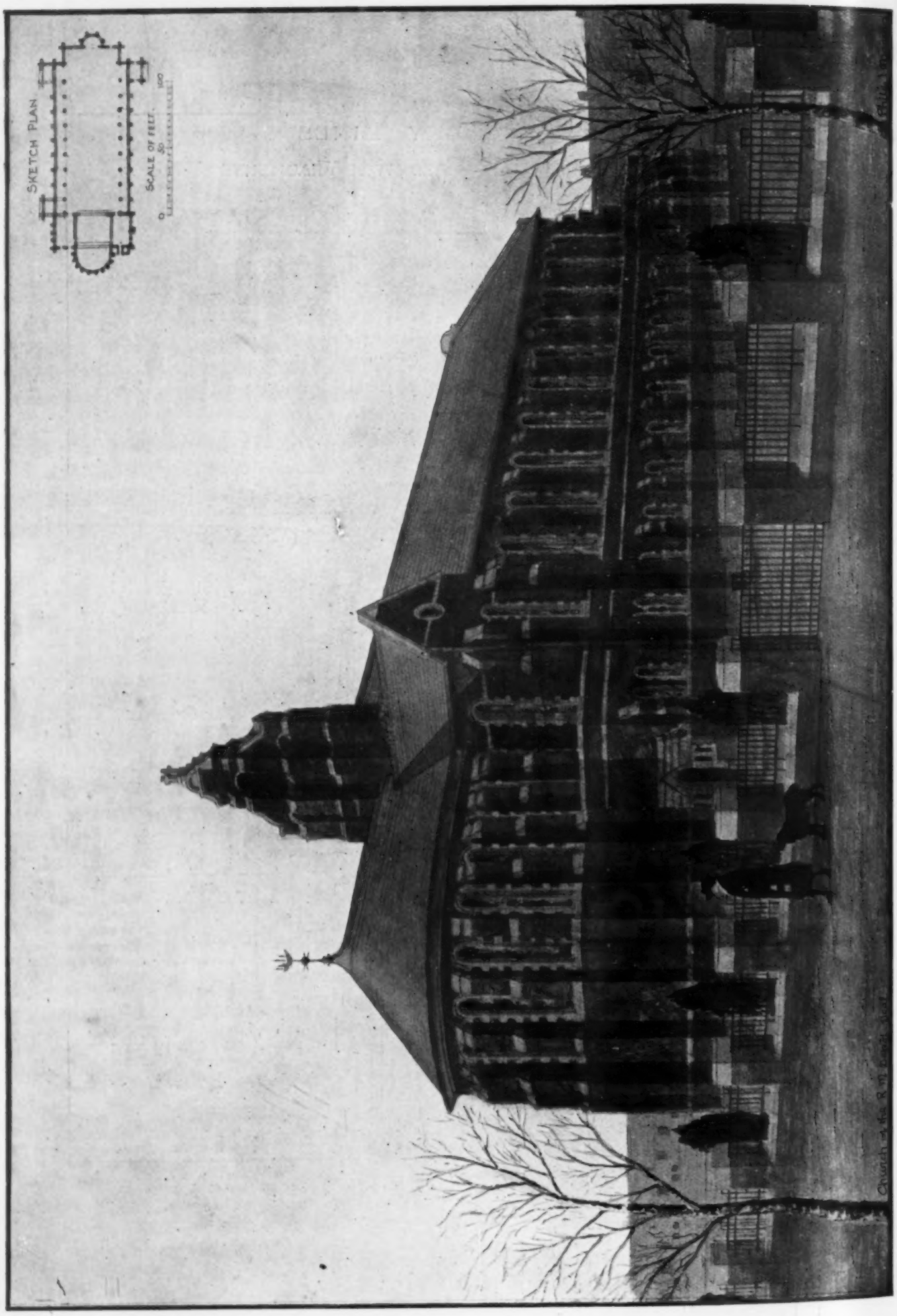
MESSRS. WIMPERIS, SIMPSON & GUTHRIE, Architects.



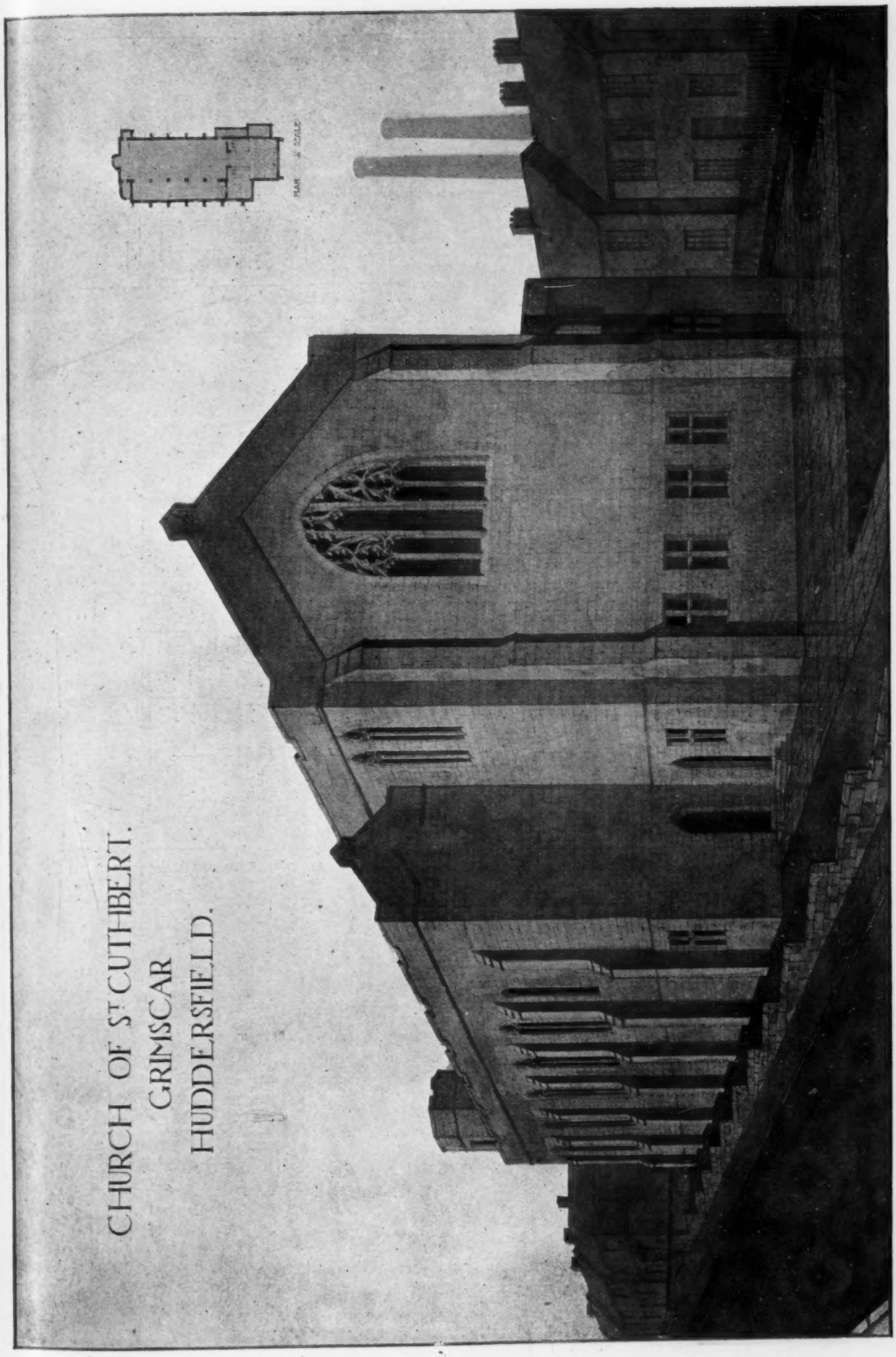
Restoration of Window, Thornton Abbey, Lincs.

Mr. John J. Cresswell, A.R.I.B.A., Architect.

(*See p.* 353.)

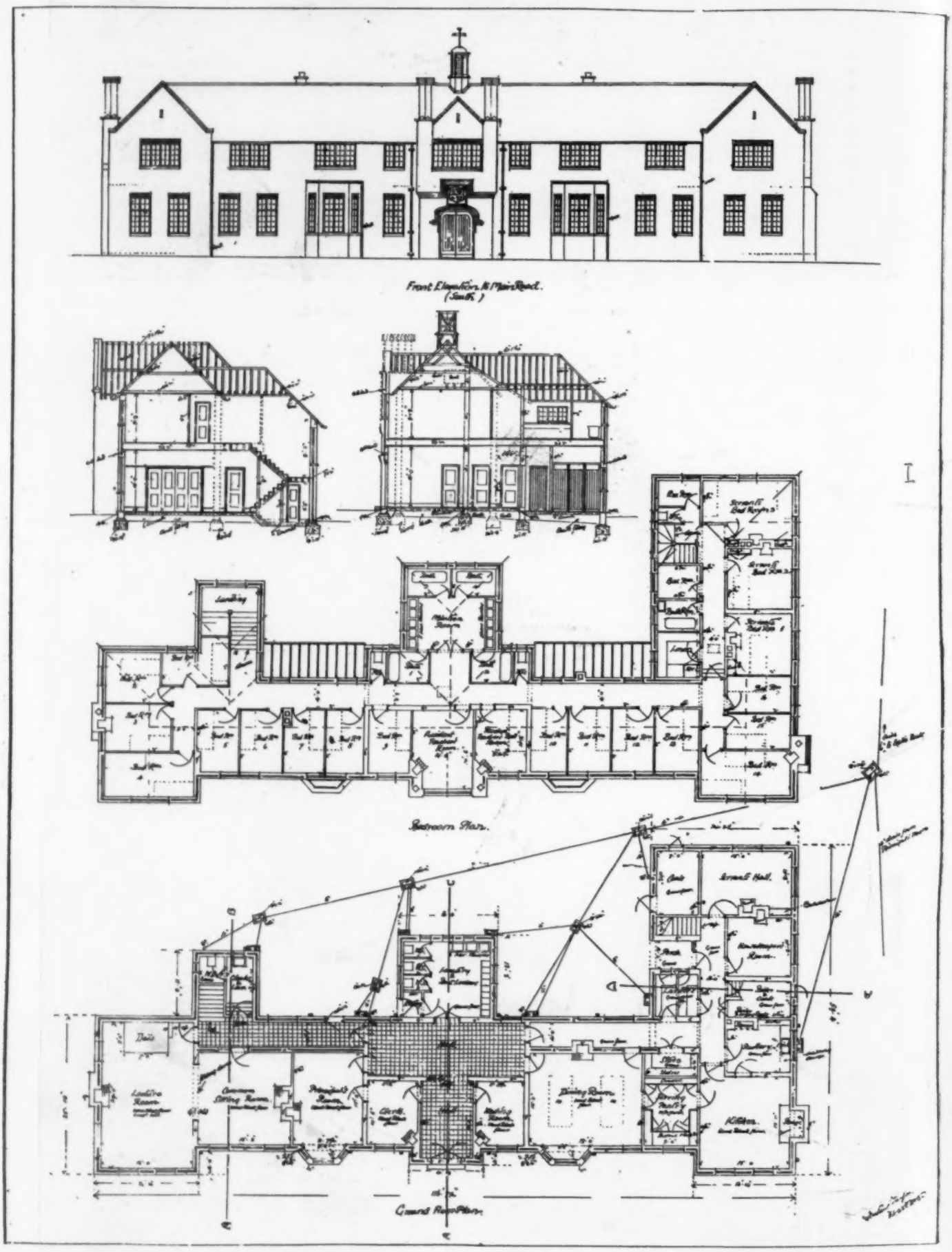


Church of the R.M. Depot, Deal. Mr. Philip J. Marvin, Architect.



MESSRS. HOAR & WHEELER, Architects.

Church of the R.M. Depot, Deal. Mr. PHILIP J. MARVIS, Architect.



East Sussex Farm Institute.

MR. G. AUSTEN TAYLOR, L.R.I.B.A., Architect.

This institute was designed for the accommodation of eighteen resident students and domestic staff, and there is a detached principal's house. The materials being used are Crowborough stock brick facings with 2 in. red brick dressings and chimneys.

East Sussex Farm Institute. MR. G. AUSTEN TAYLOR, L.R.I.B.A., Architect.

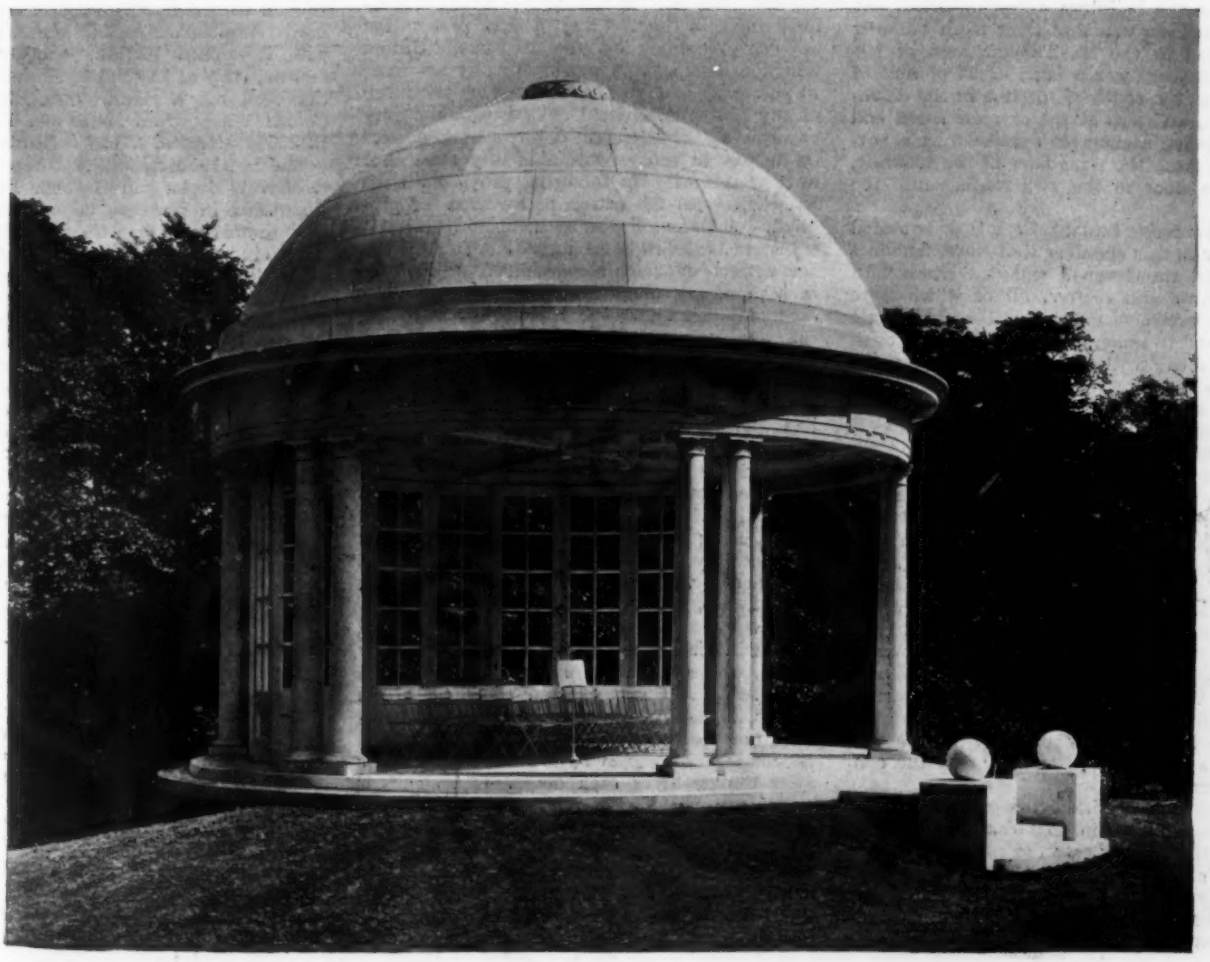
BAND STAND, VALE PARK, WALLASEY

THE bandstand illustrated is erected in Vale Park, Wallasey, a quiet and charming natural wooded park sloping towards the Mersey and promenade. Considerable thought was exercised in order to preserve the amenities and harmony of the surroundings, and after the consideration of several alternative designs it was finally decided to adopt a circular columnar bandstand having a domed roof, the whole formed in reconstructed stonework and finished in Atlas White cement. The design generally is in a modified mutular Doric style, having six pairs of columns resting on a stylobate and surrounded by a grass slope. The upper portion consists of an entablature, circular on plan, and two stepped rings, from which the dome springs. The top of the dome is finished with a raised ring having a running ornament in bas relief formed thereon. Over each pair of columns in the panel normally occupied by the triglyphs the name of a famous musical composer is inscribed, the six names being formed in high relief in the same materials as the entablature. A flat wooden ceiling at the frieze level is provided, divided into six segments by moulded ribs. From the centre of each segment depends a Holophane Nord reflector electric fitting, the combined wattage of the six lights being 1,200.

A sliding glass screen is provided which is capable of enclosing half the bandstand, and which forms the dual purpose of a wind-screen and sound projector. The screen may be moved to any position.

The foundations of the bandstand consist of a ring of concrete, upon which is built a 14 in. retaining wall filled in with sand. The framework of the structure is built upon six pairs of rolled stanchions bolted to a circular steel curb 28 ft. in diameter at entablature level, from which spring the curved members forming the dome. The top ends of members are secured by bolting to a steel ring 2 ft. 6 in. in diameter at the crown of the dome. The skeleton framework forming the dome and entablature is covered with Hy-rib metal lathing, the whole being rendered and finished in Atlas White cement. The shafts of columns are formed in reconstructed stonework, the drums of which are in two halves, wired together and finished in Atlas White to match the dome, steps, &c. The dimensions of the structure are as follows:—Diameter over outer step, 33 ft. Diameter to centre of columns, 28 ft. Height from floor level to crown of dome, 27 ft.

The contractors for the work were Messrs. Boulton & Paul, of Norwich, and the reconstructed stonework and plastering was carried out by Messrs. Crotch & Son, of Norwich, under the supervision and to the designs of Mr. L. St. G. Wilkinson, M.Inst.C.E., Borough Engineer and Surveyor to the County Borough of Wallasey.



Bandstand, Wallasey. MR. L. ST. G. WILKINSON, M.Inst.C.E., Borough Engineer and Surveyor.

LEGAL SECTION.

NOTES ON CURRENT CASES

Electricity Undertakings. Area of Supply.

WE may briefly note a decision in the case Attorney-General *v.* County of London Electric Supply Company (1926, 1 Ch. 542), because it shows that as regards areas of supply there is a distinction between electricity supplied under the Electric Lighting Acts and gas and water supplied under other Acts. The facts are rather voluminous and we can only state the point raised very concisely. The St. Pancras Borough Council, who were authorised to supply electricity in their area under Electric Lighting Orders made under the Electric Lighting Act, 1882, were suing at the relation of the Attorney-General to restrain the defendant Company, who had powers to supply electricity under Orders made under the Electric Lighting Acts, 1882 and 1888, from supplying electricity in the St. Pancras area. Under Order in Council made under the Local Government Act, 1899, there had been a change in the boundaries, but this change, it is stated in the judgment, had not affected the powers of the defendants or extended the area of supply of the relators.

On the boundary between the two areas there was a property acquired by Messrs. Hultons, a firm of printers, for the purpose of erecting large printing works and the boundary line ran nearly through the centre of this property, the southward portion being in the area of the defendants but the northward portion being in the area of the relators. The alteration in the boundary appears to have somewhat misled the parties, for at first the relators had been in negotiation with Messrs. Hultons to supply electricity to the works when completed, being under the impression that their area included the portion transferred from Holborn, but these negotiations were broken off and Messrs. Hultons then entered into a contract for supply by the defendants. This contract fixed the maximum demand which Messrs. Hultons would be entitled to make on the basis of their requirements when the buildings were completed, but the position then was that their main building was situated in the St. Pancras area of the relators but there was a building at present of one story to the south of the line in the defendant's area, and also at the extreme south end of this building a chamber separated by a partition wall from the remainder of the building, but with a door in the wall leading into the building.

Without entering into details, it may be stated that it was in this chamber that the defendants had erected transformers and converters with switch boards and meters, all of which were under the exclusive control of the defendants and belonged to them, and from thence through two sets of cables the power supplied by the defendants was carried through the building, the cables and all apparatus beyond the second switch-board in the chamber being the property of and under the control of Messrs. Hultons. At the time of action the supply to the south of the boundary was trivial as compared with the amount of power and light supplied north of the boundary. The question for decision was, to put it very shortly, whether the word "supply" contained in the Acts and Orders meant, as it was contended by the relators was held in the case of gas in Gas Light and Coke Company *v.* South Metropolitan Gas Company (62 L.T. 126), and in the case of water (Attorney-General *v.* West Gloucestershire Water Company, 1909, 2 Ch. 338) "supply for use" or "supply to the point of consumption," or, as the defendants contended, "supply at the consumers' terminals."

The Court distinguished the gas case mainly on the ground that in that case the question raised in the present case did not arise for the consumer's premises were not partly in one area and partly in the other; and the water case because there were indications in the Act there in question that "supply" meant "supply for use," and that in that case the Company was supplying water outside its area, therefore the case had to be decided upon the construction of the Acts and Orders. and the Court came to the conclusion that in these Acts and Orders the word "supply" does not mean supply for use or consumption, but supply at the consumer's terminals, which in this case were within the defendant's area and therefore the action failed. The Court was supported in coming to this conclusion by two cases, Attorney-General *v.* Leicester Corporation (1910, 2 Ch. 359) and Attorney-General *v.* Sheffield Corporation (106 L.T. 367).

The Court pointed out in connection with the case Gas Light and Coke Company *v.* South Metropolitan Gas Company that the Metropolis Gas Act, 1860, was intended to give effect to an agreement which created a monopoly, but in the Electric Ligthing Act, 1882, no monopoly was created, and it was not until the Electric Lighting Act, 1909, came into operation that anything like a monopoly was created by section 23.

Public Authorities Protection Act.

In our Legal Section for December 25, 1925, we noted some cases under the Public Authorities Protection Act, 1893, and amongst them was a case, Freeborn *v.* Leeming (1926, Q.K.B. 160), where a man injured by a motor car had suffered a dislocation of his hip on September 5, 1923, and been taken the following day to a workhouse infirmary, where he remained under medical care until October 15, when he left at his own desire, being dissatisfied with the treatment. Six months and ten days after he had left the infirmary he brought an action against the medical man of the infirmary, alleging that his case had not been properly diagnosed, and in consequence the injury had left him a disabled man, and in that action the defence was set up that the action was out of time under the Public Authorities Protection Act. The material part of the Statute is Section 1, "Where after the commencement of this Act any action prosecution or other proceeding is commenced in the United Kingdom against any person for any act done in pursuance or execution or intended execution of any Act of Parliament or of any public duty or authority or in respect of any alleged neglect or default in the execution of any such Act duty or authority the following provisions shall have effect (*a*) the action prosecution or proceeding shall not lie or be instituted unless it is commenced within six months next after the act neglect or default complained or in case of a continuance of injury or damage within six months next after the ceasing thereof." The case was carried to the Court of Appeal, and that Court held, following the case Carey *v.* Bermondsey Borough Council (1903, 67 J.P. 447), that the words, "the continuance of the injury or damage" mean the continuance of the act which caused the damage and therefore the plaintiff could not recover damages in respect of the continuing disability. Where there is a continuing duty, the Act does not prevent the action being brought. An example of this was furnished by the case Huyton and Roby Gas Company *v.* Liverpool Corporation (1926, 1 K.B. 146), noted by us December 25, 1925.

These were actions brought by the injured person in his lifetime, but a question has now arisen, where the action is brought under Lord Campbell's Act by one of the dependants named in that Act, whether the time limit provided in that Act, "every such action shall be commenced within twelve calendar months after the death of such deceased person," is overridden by the provisions of the Public Authorities Protection Act." In Williams *v.* Mersey Docks and Harbour Board (1905, 1 K.B. 804), the deceased man had fallen into a lock in December, 1902, and he died of the injuries two years afterwards, the action being brought some two months after his death. The Court of Appeal held in this case that, as the right of the man himself would have been barred by reason of the Public Authorities Protection Act six months after the neglect complained of in not fencing the lock, no action survived to the dependants under Lord Campbell's Act.

The question has, however, now again come before the Court in the case, Venn *v.* Tedesco (1926, 2 K.B. 227). The action was brought against the medical officers of the Croydon Borough Hospital for alleged wrong treatment of the deceased; the jury could not agree, and the case is only reported on the point of law under the Public Authorities Protection Act. The deceased had left the hospital on April 26, 1922, he was operated upon in another hospital, April 27, 1922, and died the following June 15. The widow, under Lord Campbell's Act, issued a writ, December 6, 1922, that is to say, more than six months after the deceased had left the defendants' care, and it was contended that, in these circumstances, the time limit of twelve months contained in Lord Campbell's Act, applied, and not the limit of six months in the Public Authorities Protection Act.

The Court, one of first instance, recognised that there was a body of authority contrary to this contention, citing Markey *v.* Tolworth Joint Isolation Hospital District Board (1900, 2 Q.B. 454), (a decision of the Irish Court of Appeal) in Gawley *v.* Belfast Corporation (1908, 1 R. 34); Williams *v.* Mersey Docks and Harbour Board (*ubi sup*); and Freeborn *v.* Leeming (*ubi sup*); but on the authority of a decision in the Privy Council British Columbia Electric Railway Co. *v.* Gentile (1914, A.C. 809), held that Lord Campbell's Act gave a new cause of action and that the time limit in this Act and not in the Public Authorities Protection Act applied.

It is not for us to express any opinion on this judgment, and we can only point out that this decision has been given. The decisions given by the Privy Council are not actually binding on the Courts here, but are always treated with the greatest respect. This case in the Privy Council turned upon an Act closely resembling Lord Campbell's Act, but the Act at variance with it appears not to have been a general statute, such as the Public Authorities Protection Act, but a tramway Act, but the Privy Council disapproved Markey *v.* Tolworth Joint Isolation Hospital District Board.

The decision of the Court of Appeal in Williams *v.* Mersey Docks and Harbour Board was distinguished in the case under consideration on the ground that there the man had lived more than six months after the negligence complained of, and therefore he himself would have lost his right of action; whereas in this case, Venn *v.* Tedesco, the Public Authorities Protection Act at the date of his death would not have barred his action, and the action brought under Lord Campbell's Act being a new action could be brought within the time allowed by this latter Act. It will be seen the case raises a point of great importance, and unless it is appealed the law will be as we have stated—that unless the action by the deceased would be barred in his lifetime an action under Lord Campbell's Act can be brought within the time limit mentioned in that Act, that is, twelve months, despite the provisions in the Public Authorities Protection Act.

Housing in Hackney.

From the report on the sanitary conditions of the Borough of Hackney just issued we notice that 87 new houses have been erected during the year 1925 with State assistance under the Housing Acts, 1919 to 1923, 48 by the local authority and 39 by other bodies or persons. There is very little land remaining available for building purposes in the borough, and land previously in use as gardens for large private houses is now being utilised for the building of houses and private premises.

STRUCTURAL PROBLEMS—V

CONNECTED WITH THE PROVISION OF AN ADDITIONAL STORY TO AN EXISTING BUILDING.

BY G. A. GARDNER, M.I.Struct.E., Assoc.I.E.E., etc.

Conclusion.

COLUMNS and stanchions of cast iron when existing in a building to which an additional story is to be provided often constitute a source of trouble, for not only is the limiting strength of old cast-iron construction a matter of some uncertainty, but the methods of strengthening it present not a few difficulties. In the case of columns, the shaft should be drilled to ascertain the thickness of metal, say at a third and two-thirds the height of each story length, and the holes should not be greater than ½ in. diameter in order to avoid unduly reducing the sectional area of the metal. The thickness can be measured by a length of wire with a slight hook at one end, or an adjustable depth gauge may be used. A further measurement should be taken from the outside of the hole to the inner surface of the column diametrically opposite, and the external circumference of the shaft at the plane where the hole is drilled should also be ascertained. From these particulars, the diameter of the column can be calculated, and any eccentricity of the core and variation in thickness of the metal ascertained—This is important for purposes of strength calculations.

In making a decision as to whether an increased load may be allowed on existing cast-iron columns or stanchions, considerable uncertainty may arise, especially in cases where the nominal factors of safety usually observed at the period when cast-iron columns were extensively used are to be appreciably reduced. The inherent uncertainties embodied in practical strut formulæ are heightened in the case of cast iron on account of unknown weaknesses due to the possibility of eccentricity previously mentioned, and due to blow-holes, checks and other defects; and, moreover, there is very little data available of tests on full-size cast-iron columns (such as those carried out about 1890 at the U.S. Arsenal), or on reasonably large laboratory specimens under conditions approaching those met with in actual practice. Where a special case warrants very thorough investigation the margin of uncertainty as to ultimate strength may be narrowed down by careful mathematical analysis, taking into account as many ascertainable facts as possible, but even then the real factor of safety called for should be more liberal than in the case of steel stanchions.

In addition to difficulties arising as to the strength of the shaft of the column there is the sufficiency of the bearing brackets for the beams to take into account in cases where the end reactions of the beams are to be increased (*vide* Article I.). It is, however, unlikely that the brackets will be weak in comparison with the shaft of the column, and in any case an attempt to strengthen the brackets by steel stiffeners, &c., set-screwed to the cast iron would be an unusual and doubtful procedure, only to be undertaken in special cases—The addition of brackets to the shaft of a column must also be regarded as being in the same category.

In a case where existing cast-iron columns are found to be incapable of safely supporting the added weight from an additional story some method of reinforcing them can be considered, and in this connection it may be remarked that where an additional story is to be provided on an old building it sometimes happens that increased loads on the floors generally are called for, due to change of user. Where this is so the strengthening of the columns throughout may have to be considered.

It is possible to strengthen cast-iron columns by an enveloping column of reinforced concrete, and where, as is often the case, the existing columns have been protected from fire risk by a thick encasing, the outer diameter of the column might not be unduly increased. The principle of strengthening cast-iron columns with reinforced concrete has not, as yet, met with general acceptance by practising structural engineers, but there have recently been some notable instances of new works carried out in America and on the continent with this combination of cast iron and reinforced concrete, which has been extensively studied as a system by Dr. F. von Emperger. The writer regards the system as generally applicable to the type of case being considered in this article, and it is to be noted that the provision of additional strength at the bracketed connections can be duly made by a suitable disposition of the steel reinforcement and concrete. The form of steel reinforcement best calculated to serve in the enveloping concrete is the spirally hooped form with vertical rods, and it might be advantageous in special cases to provide some form of "stitching" (*c.f.* remarks on enveloping beams of reinforced concrete in Article III.) between the reinforced concrete and the cast-iron core.

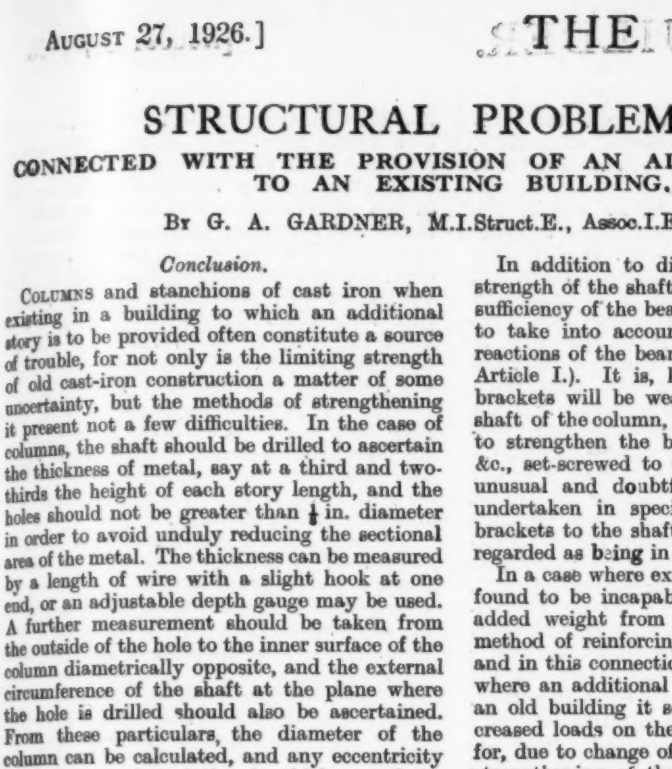
If the columns are not to be strengthened by reinforced concrete then some form of auxiliary steel stanchion built around or against the cast iron may in some cases be used, although this is as a rule only practicable where the increased load is to be brought on by additional beams, or where certain of the existing beam loads are to be entirely relieved from the column.

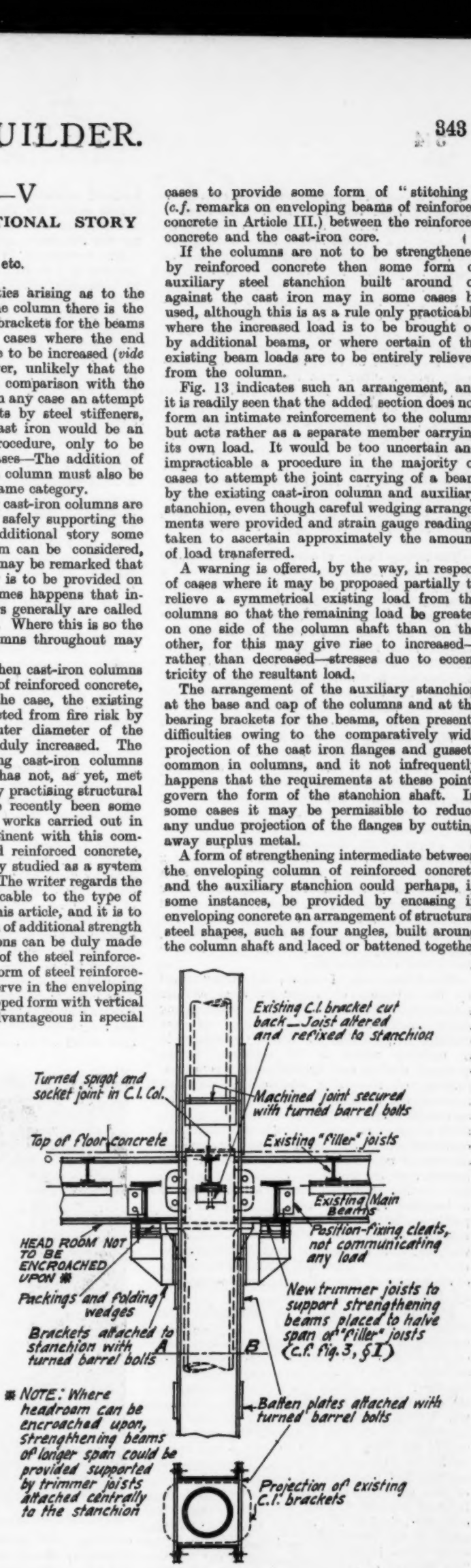
Fig. 13 indicates such an arrangement, and it is readily seen that the added section does not form an intimate reinforcement to the column, but acts rather as a separate member carrying its own load. It would be too uncertain and impracticable a procedure in the majority of cases to attempt the joint carrying of a beam by the existing cast-iron column and auxiliary stanchion, even though careful wedging arrangements were provided and strain gauge readings taken to ascertain approximately the amount of load transferred.

A warning is offered, by the way, in respect of cases where it may be proposed partially to relieve a symmetrical existing load from the columns so that the remaining load be greater on one side of the column shaft than on the other, for this may give rise to increased—rather than decreased—stresses due to eccentricity of the resultant load.

The arrangement of the auxiliary stanchion at the base and cap of the columns and at the bearing brackets for the beams, often presents difficulties owing to the comparatively wide projection of the cast iron flanges and gussets common in columns, and it not infrequently happens that the requirements at these points govern the form of the stanchion shaft. In some cases it may be permissible to reduce any undue projection of the flanges by cutting away surplus metal.

A form of strengthening intermediate between the enveloping column of reinforced concrete and the auxiliary stanchion could perhaps, in some instances, be provided by encasing in enveloping concrete an arrangement of structural steel shapes, such as four angles, built around the column shaft and laced or battened together


Distributor beams solidly encased in 1:2:4 concrete
Vent & grouting tubes
SECTION THRO. WALL
Existing Brickwork
Bearing plates
1:1½:3 Concrete Pad
Cement grout
Space grouted after stanchion is loaded
Central pocket filled with concrete before stanchion is placed


Existing C.I. bracket cut back—Joist altered and refixed to stanchion
Turned spigot and socket joint in C.I. Col.
Machined joint secured with turned barrel bolts
Top of floor concrete
Existing "filler" joists
Existing Main Beams
Position-fixing cleats, not communicating any load
HEAD ROOM NOT TO BE ENCROACHED UPON *
Packings and folding wedges
New trimmer joists to support strengthening beams placed to halve span of "filler" joists (c.f. fig. 3, §I)
Brackets attached to stanchion with turned barrel bolts
A
B
* NOTE: Where headroom can be encroached upon, strengthening beams of longer span could be provided supported by trimmer joists attached centrally to the stanchion
Batten plates attached with turned barrel bolts
Projection of existing C.I. brackets
PLAN ON A-B

—Such a composite system might be classed as reinforced steel and cast iron. The relative merits of the several arrangements cannot be discussed in a general article such as this, but the special circumstances in any particular case arising in practice may dictate the system to be used.

Whilst the technical problem of strengthening cast-iron columns can in many cases be solved, the economic aspect of the matter may suggest the replacement of the columns by steel stanchions on solid steel columns. Moreover, factors other than the purely economic one, often figure in the decision, and objections arising from the possibility of defects in cast-iron work may be a legitimate reason in many cases for scrapping the columns; but sometimes an unconditional desire for modern construction and in other instances a predilection for the fundamental error of "making work," may give a strong bias in favour of pulling down the existing construction, which might, with economy, be saved.

The strengthening of steel or, in some cases wrought-iron stanchions presents less difficulty than in the case of cast iron, although similar methods may be employed. There is recent experimental evidence to show the considerable increase in ultimate resistance afforded to a slender steel stanchion by a casing of plain structural concrete where the "mass" of the concrete is relatively great compared with that of the steel—and where the enveloping concrete is suitably reinforced, as described for the treatment of cast-iron columns, the method of strengthening may confidently be taken in hand by the structural specialist.

The provision of relatively slender structural steel stanchions to form cores to reinforced concrete columns has been made use of in ferro-concrete building construction to facilitate the process of carrying out the work by enabling the weight of the floors under construction to be borne by the steel cores before the enveloping reinforced concrete is completed. In such instances, as in the case of treating an existing stanchion or column, the fact that the metal core will be sustaining a proportion of the load before the enveloping concrete is placed, must be duly taken into account in the theoretical considerations.

Stanchions may, of course, be strengthened by the addition of structural steel sections intimately riveted or bolted to the existing shaft, but the great amount of site drilling, &c., entailed is often prohibitive in a building which is to continue to be occupied during the strengthening operations. Instead of increasing the section in this manner, the stanchion may be reinforced by an auxiliary shaft only, attached to the existing shaft at intervals, and although the theoretical considerations in such cases are troublesome the amount of site work is greatly reduced. The members of the auxiliary shaft together with the existing stanchion form what is virtually a battered stanchion with its original shaft partly loaded, and the details of the joints, beam brackets, &c., together with any provisions for wedging, must be carefully thought out in order that the inherent difficulties attending the design of stanchions of this type may not be increased by indeterminate conditions.

Stanchions may also be strengthened in the manner described for cast-iron columns, by encasing in enveloping concrete an assemblage of structural steel shapes, such as four angles, arranged about the shaft and laced or battened together. This method was recently adopted in the case of a new building in London, where it was desired to modify the interior architectural treatment by omitting a considerable area from one of the floors in order to form a hall twice the height of the general stories. The stanchions affected had been erected, together with much of the superimposed steel structure and reinforced concrete flooring, and their slenderness over the height of two stories, with the staying effect of the intermediate floor removed, rendered them inadequate for the final loading. The method of strengthening in this instance was particularly appropriate since the architectural treatment of the casing of the stanchions called for liberal external dimensions, and thus allowed an ample cross sectional area for the structural concrete.

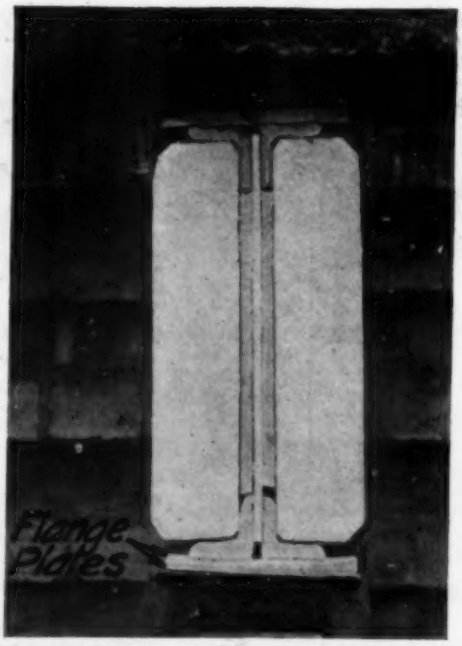
As mentioned in a previous article, the problem of providing additional or new supports to bressummers sometimes arises in connection with the provision of an additional story, and these supports in the form of stanchions or columns may have to bear upon brick walls (strengthened if necessary) in the lower parts of the building. In order to distribute the stanchion load over such a length of the wall that the intensity of pressure on the brickwork shall not exceed allowable limits, steel or reinforced concrete distribution beams are usually necessary.

The distribution of pressure afforded in any particular case where the beams are bedded throughout their length is dependent upon the mutual deflection of the beams and the deformation of the brickwork; but the modulus of deformation for various compositions of brickwork has not been established for practical purposes, and in any case the mathematical treatment of the problem is very tedious and hardly justified by the practical importance of the point at issue. What, however, *is* important, is to note that the assumption frequently made of a uniform evoked resistance from the brickwork is not necessarily realised simply because beams have been chosen as *potentially* capable of resisting the implied bending moment! Where the length of the beams is considerable relative to their depth, the distribution of pressure cannot extend far along the wall if the beams are bedded throughout their length, and therefore in designing distributors the beams should be chosen as stiff as is practicable.

In order, however, further to ensure as far as possible the pressure being distributed over the calculated area, the distributor beams should rest on bearing plates at their ends and be clear of the brickwork immediately under the stanchion load. Such an arrangement is shown for a heavy distributor in Fig. 14, and in this case concrete bearing pads were necessary on account of the intensity of pressure immediately under the bearing plates. After the stanchion is erected, it may be plumbed by small temporary wedges between the bearing plates and the bottom flange of the distributors, and the space grouted up before the stanchions are loaded. This position for the wedges between steel and steel is convenient, but the writer has met with the suggestion that grouting between steel and steel would not be satisfactory, it being intimated that the thin layer of grout would not stand any considerable intensity of pressure, although no objections were raised to the common practice of grouting between stanchion bases and the surface of concrete foundations. In order to throw some light on this question, the writer carried out a few laboratory tests on specimens of 1 : 2 Portland cement and sand grout about ¼ in. thick cast and tested between smooth ⅜ in. steel plates 6 in. square. Pressures of 270 tons per sq. ft. were sustained at fourteen days old without signs of incipient failure, and the specimens appeared quite sound when removed from between the plates—lack of time preventing the pressure being brought up to the machine's maximum of 400 tons per sq. ft. The maximum intensity of pressure of about 40 tons per sq. ft. occurring in practice appears therefore to be reasonable.

The imposition of heavy stanchion loads on walls is not, of course, to be recommended, but where any alternative would be prohibitive the arrangement is permissible provided the wall is efficiently stayed laterally. To this end it may be necessary to build cross walls or buttress piers.

This short series of articles has been mainly concerned with outlining the structural difficulties involved, but a conclusion would not be fitting without mention of those—the operatives—who actually carry out the work. Theirs is the task of dealing with the many awkward operations and in turning out work of more than ordinary importance under trying and hampered conditions—The avoidance of structural defects and the freedom from serious accidents must largely depend on their skill and thoroughness. "*Omnia vincit labor.*"



WALL END OF WROUGHT-IRON FLOOR GIRDER showing poor workmanship, typical of that frequently found in old buildings. Note that the whole section is canted and that each flange is composed of two very thin (¼ in.) plates.

A COMPETITION DESIGN

Before Judge Harrington, at the Guildford County Court recently, Thomas Dyer, architect and surveyor, of Central Chambers, High-street, Guildford, claimed £33 from Frederick James Whitlock Hodgson, architect, of the Rosary, Ennismore-avenue, Guildford, being the half-cost of preparing plans sent in by him in the joint names to the Bournemouth Corporation for the erection of a pavilion. Plaintiff was represented by Mr. Jenkins, and defendant by Mr. Holt.

Plaintiff said in 1923 he assisted defendant at so much per hour for work done, while carrying on a business himself. He suggested to defendant that it would be a very good thing for them to go in for the competition together. Defendant was quite agreeable, and agreed they should share expenses and profits. Witness prepared plans and designs and, after defendant had seen them, sent them in. Defendant asked him to let him have the account of his expenses and he would give him a cheque.

Leslie Robert Hiscock, A.R.I.B.A., said he thought the charge of £66 10s. was reasonable.

Defendant said at Dyer's request he visited the house and saw the plans for the first time. Dyer told him he was sending the plans in in his own name, and defendant suggested to him as he had no office in the town and was not a member of any institution, if he was successful the Bournemouth Corporation might not let him carry out the work. As he (defendant) had an office in the town he told Dyer if he liked he could send the plans in in their joint names, and that the work could be carried out from the office. He also told him he would agree if he was successful for him to have half the fees, but he did not agree to pay half the costs. A reasonable time to have been occupied on the plans would have been a month.

His Honour said he had come to the conclusion that it was a joint enterprise, and that the terms were that the expenses of the preparation of the plans should be shared between the parties. It was obvious that if the plans had been successful the defendant would have reaped a very large benefit under the terms which he himself had stated. Defendant himself suggested the plans should be sent in in their joint names. There would be judgment for plaintiff for £30, and a qualifying fee would be allowed for Mr. Hiscock.

[The above is condensed from a report in the *Surrey Times.*]

SPECIFICATIONS.—XXXII

By H. V. MILNES EMERSON, A.R.I.B.A.

ELECTRICAL ENGINEER.

ELECTRIC current for lighting, &c., can generally be obtained from a public supply. The current consumed passes through a meter which can be rented or purchased. The current is supplied in two forms: (1) continuous or direct current; (2) alternating current.

Should a public supply not be available the electrical current for power and lighting can be obtained from a private plant. Cheap generation of electricity can be obtained in districts where water power is available.

The following are the definitions of electrical terms in general use:—

Continuous or direct current is when it flows continuously in one direction. Alternating current is when its direction is reversed several times a second.

Ampère is the unit of electric current. The unit of quantity, measured in ampère hours, is the current flowing per hour. Since the voltage is constant the number of ampères varies in direct proportion to the load on the plant.

Volt is the unit of electromotive force. The pressure of supply from public or private plants is practically constant. If the pressure falls, especially in a private plant, it indicates that the plant is overloaded.

Watt is the practical unit of electric power. Volts × ampères = watts, *i.e.*, 1 volt × 1 ampère = 1 watt.

Watt-hour is the practical unit of electrical energy. When 1,000 watts, which equal 1 kilo-watt, is used steadily for one hour it is called one unit.

Kilo-watt is one thousand watts.

Unit.—The Board of Trade unit is the commercial unit of electrical energy, and equals 1,000 watts, or one kilo-watt. It is upon the basis of units that electricity is sold. The consumption of any lamp in units can be readily ascertained by dividing the number of watts marked upon the lamp into 1,000. The result indicates the number of hours such a lamp will burn in order to consume one unit of electricity. A 25-watt lamp will consume one unit of electricity in 40 hours, and if the cost of the unit is 5d., then the lamp will burn 8 hours for 1d. A half-watt lamp indicates that for each candle power of light given the consumption of electricity will be ½ watt. Such a lamp giving 100 candle-power will consume 1 unit of electricity in 20 hours.

Horse power.—The electrical horse-power equals 746 watts, the horse-power being equal to 33,000 ft. lbs. per minute.

Ohm is the unit of electrical resistance, and is employed for measuring the value of the insulation on the wires.

Megohm is one million ohms and is the practical of insulation unit resistance. Each completed installation is tested to find the number of megohms resistance between the conductors and between each wire and earth. The water service pipe makes the best earth connection for this purpose.

Conductor.—Any material capable of conducting electrical current.

Electromotive force is the force measured in volts which tends to pass the current through a conductor or resistance.

Potential difference or voltage is the difference of potential or voltage between two conductors of an electrical circuit, or the poles of any electrical apparatus.

Resistance is the resistance offered by a conductor to the passage of current.

Parallel.—When two or more lamps are connected to two or more wires across the positive and negative conductors of an electrical circuit they are said to be in parallel.

Series.—When two or more lamps are connected to one line across the positive and negative conductors of an electrical circuit they are said to be in series.

Short circuit is an accidental electrical connection between the positive and negative conductors.

The electrical laws of practical importance in connection with electrical installations are Ohm's Law and the Laws of Resistance. In all electrical circuits there are always present three factors—*i.e.*, electromotive force, current, and resistance. In a circuit having a pressure of the force of 1 volt, 1 ampère of current can be passed against a resistance of 1 ohm. This relationship always holds, and is enunciated in Ohm's Law and expressed thus:—

Let C = current in ampères, E = electromotive force in volts, and R = resistance in ohms.

Then $C = \frac{E}{R}$ $R = \frac{E}{C}$ and $E = C \times R$

Practically all calculations for electric wiring are based on these equations.

The resistance of any conductor is directly proportional to its length and to the specific resistance of the material, and inversely proportional to its area. Taking a rod of material, let R = resistance, l = length in inches, and A = sectional area in square inches, and p = specific resistance of the material per cubic inch.

Then $R = \frac{pl}{A}$.

Resistance increases with the rise of temperature caused by the flow of current through a conductor. The formula used for ascertaining the resistance of a conductor at a given temperature from its known resistance at a lower temperature is as follows: Let R = resistance at lower temperature, R1 = resistance at the higher temperature, t = difference in temperature, and x = temperature coefficient.

Then $R1 = R\,1\ (\times xt)$.

The Wiring Rules of the Institution of Electrical Engineers and the British Standard Specifications give data for the resistances and weights of copper conductors.

When the supply of current cannot be obtained from a public source a private generating plant can be installed. If water power is available, the cost of production is small. Gas, oil, or petrol engines can be used for small plants, and oil or steam power for plants to large institutions.

Modern gas engines consume 15 to 25 cubic feet of gas per brake horse-power and, with gas at 5s. per 1,000 cubic feet, the cost is about 2d. per unit.

An oil engine consumes about 1¼ lbs. of oil per brake horse-power and, at 1s. per gallon for oil, with a specific gravity of 0.8, the cost per unit would be 1¼d.

Petrol engines consume from .5 to .8 lb. per brake horse-power. This equals about 9 to 12 units to a gallon of petrol. The cost per unit, with petrol at 1s. 6d. per gallon, would be 1½d. to 2d.

The principal parts of an electrical installation are:—The driving power, dynamo, switchboard, accumulators, main and distributing conductors, and the fittings, such as brackets, pendants, table and floor standards, irons, cooking apparatus, &c.

Where water power is available this will prove a most economical method of working the generating plant. The driving power is generally a turbine. If the water has to be collected and conveyed in pipes consideration should be given to interest on capital expenditure against the cost of fuel for an oil or other type of engine. If water power is used provision must be made by means of screens, &c., to prevent any foreign matter being conveyed by the water to the pipes or turbines.

Gas engines operated from the public gas service give the minimum of trouble. Suction gas can be used with advantage for plants of 25 h.p. or over, but requires more attention and a steady load.

Petrol or paraffin can be used with plants up to 45 h.p., and above that the Diesel type of oil engine is probably the most economical to run up to 1,000 h.p.

Automatic or semi-automatic plants can now be obtained in sizes ranging from 3 to 45 brake horse-power, coupled direct to the dynamo and mounted on one combined cast-iron bed-plate, and driven by paraffin or petrol. The essential points of these plants should be:—

Simplicity and reliability.
Easy and immediate starting.
Neatness and compactness of design.
Low running cost.
Good workmanship and durability.
Accessibility to all working parts.
High-tension magneto-ignition.
Medium speed and perfect control.
Vapouriser giving a uniform mixture.

Attention should be given to following parts of the engine:—

Bed plates should be well ribbed to withstand all stresses and accurately machined for engines, dynamos, pumps, &c.

Crank cases should be dust-proof, rigid and strong.

Cylinders should have liberal water jacket and all parts of the jacket should be accessible to remove any sediment.

Pistons, inlet and exhaust valves, crank-shafts and connecting rods should be the best of their respective kinds and where required easy of access.

The fly-wheels should be heavy and the main bearings should have large wearing surface and provision made for adjustment.

Governing and ignition should give best results.

Lubrication.—All main bearings, crank pins, governor and magneto spindles should be fitted with forced lubrication.

Vapouriser should be automatic in action and give a uniform mixture at all speeds.

Couplings should be flexible, allowing ease of alignment and fit close up to the fly-wheel.

Exhaust silencer should be effective.

Dynamos should have large overload capacity. The temperature rise after six hours' run on full load should not exceed 70 deg. Fahrenheit. The dynamos should be shunt or compound wound, according to requirements. Guarantee for one to three years to replace free of charge any defect through faulty material or workmanship.

Shunt-wound dynamos are not used for incandescent lamps, where the voltage must be constant although the current used may vary. These conditions are imperfectly performed by shunt winding, as any increase of current causes a drop in voltage.

Series wound dynamos are suitable for arc lamps in series where the current must be constant, although the voltage may vary.

Compound wound dynamos combine the series and shunt wound, and are most suitable for incandescent lamps, as any increase in the load causes more current to pass round the field magnets, thus maintaining the voltage at its normal value.

Proposals for Civic Centre at Wanganui, New Zealand.

An elaborate scheme for a civic centre for Wanganui has been prepared by Mr. S. Hurst Seager, F.R.I.B.A., of Christchurch, which has met with general approval by the City Council. The Council decided, however, that there were many difficulties to overcome owing to lack of foresight in the early planning of the town of Wanganui. The proposal includes a town hall, museum, art gallery, library, and concert hall, which it is suggested should be arranged in connection with the municipal buildings, which would form a necessary room for receptions and municipal ceremonies, and access could be arranged to the town hall from it. This concert hall would be on the first floor. It was stated that the city is placed in a difficult position in regard to suitable areas on which to build civic buildings. The Mayor pointed out that he did not suggest that the scheme should be carried out immediately. It might not be carried wholly into effect for five, ten or fifteen years.

ARCHITECTS' & BUILDERS' INQUIRY BUREAU

We are glad to give questions and answers, but cannot accept responsibility for contributed replies, especially on legal matters.

May we appeal to our correspondents to submit their queries on paper of a size easily filed, and written as legibly as possible, or, better still, in typewriting?—ED.

Fitting of Tanks.

SIR,—I have always, or at least whenever possible, specified water tanks to be flanged at works for the various pipes and overflows, but I have some doubt whether it is not more economical to have them drilled on site and the pipes secured with backnuts. What has been the experience of some of your readers?

ECONOMY.

Fall of Drains.

SIR,—I have an estate to drain in which the fall of sewers is very restricted. What is the absolute bare minimum fall that can be permitted for a 6-in. soil bearing drain? The text book, 1 in 60, is quite out of the question in this case. CUTTING IT FINE.

Solid Floors.

SIR,—I have been told by a contractor that his experience has proved to his own satisfaction that boarded floors laid direct on breeze concrete are less liable to rot than those laid on ballast concrete, even though in both cases the undersides of the boards have been tarred. Is there anything in this contention? THOMAS.

Observatory Construction.

SIR,—I have a small observatory to construct in connection with a secondary school which is being erected from my designs, and I am doubtful whether my knowledge of observatory construction is up to date. Would any of your readers having such knowledge kindly give me the benefit of their experience and assist my difficulty? J. M. B.

French Slates.

[REPLY TO "ECONOMY," AUGUST 13.]

SIR,—Black French slates are liable to shale off, which is a somewhat serious defect in roofing; but carefully laid in cement, in two courses, breaking joint, this defect can hardly arise, and as the material is impervious to damp, it should make a thoroughly efficient damp-proof course, though the comparatively small amount of material required for the purpose, even in a job of considerable size, will account for a very small economy in comparison with ordinary Welsh slates.

JOHN BULL.

Bills of Quantities: Errors in Extension.

[REPLY TO "ANXIOUS," AUGUST 13.]

SIR,—The contractor is entitled to payment for all work and materials ordered to be executed in excess of the quantities billed for, and at the rates quoted in his schedule. He must also allow credit from the contract price for the amount of work and materials by which they fall short of the quantities billed for, and at the rates quoted in his schedule. This ruling should account for all errors in the bill, other than those made by the contractor himself in pricing out. Of the latter the contractor is entitled only to the totals which he gives in his tender, otherwise no end of abuses in tendering might be opened up in competitive work. EQUITY.

SIR,—The letter from "F. S. I." has interested me considerably, and is very instructive. Can he, however, substantiate his statement that it is part of the duties of the surveyor to check the contractor's detailed tender before making the contract? It seems to me that the employer is adequately protected without this service, for he obviously will not be called upon to pay more than the scheduled price in the lump for the work specified, whatever may be the error in extension, while if the contractor quotes a schedule price for any detail wrongly extended this could be automatically adjusted when variations are measured. DOUBTFUL.

Paving Materials.

SIR,—I have noticed in the description of a public building recently illustrated in *The Builder* that the paving materials to be used are Portland stone slabs with black Belgian granite relieving bands. Is it not likely that materials of such widely differing degrees of hardness will wear unevenly and very quickly? I ask in view of some similar paving which I have in hand for the near future.

INTERESTED.

Pointing Ironwork.

SIR,—A new heating apparatus is being put into a building which will not be decorated for some time to come. I am anxious to have the pipes and radiators painted a subdued colour and with a minimum of expense so that they may be painted finally to match the scheme of decoration when this latter is undertaken. Water paint has been suggested, but I should like to be assured that this form of paint will be an adequate protection to the ironwork for, say, two years, and that it will be an efficient undercoat to any paint that may be finally applied thereto. Perhaps one of your readers may be able to advise me.

DOUBTFUL.

An American Position.

SIR,—I am about to finish my articles with a well-known architect and am anxious to obtain a position as an assistant in an American office. Would any reader kindly advise me the best course to take as I think this is the most important stage of my career? CELT.

Slating Swept Valleys.

SIR,—Can you please oblige me with the following information—the correct method for slating swept valleys, about which there are points we should like to be clear about:—

(1) Must the roof be specially formed, and, if so, what is the formation?

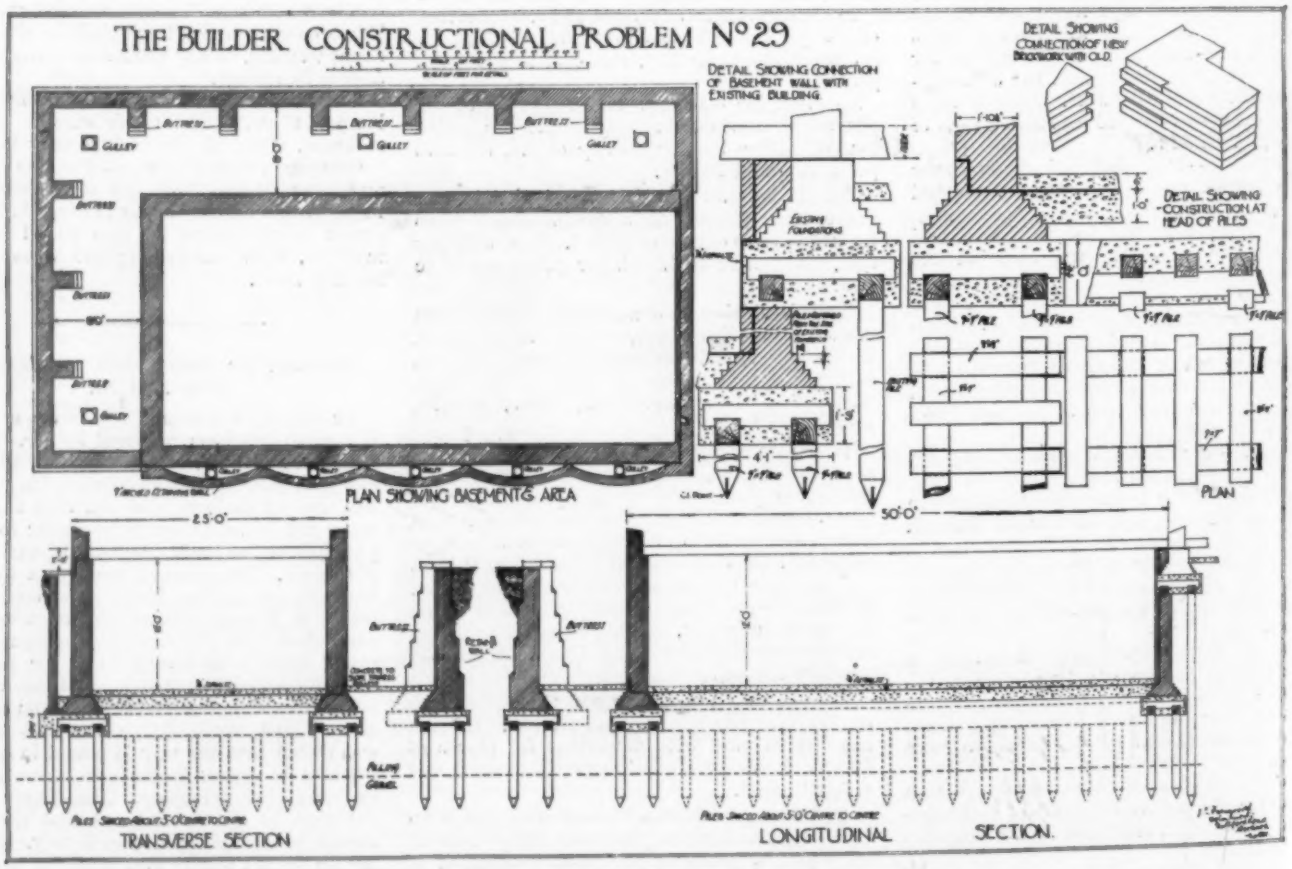
(2) Is it necessary to have lead underneath the slates to make the job waterproof?

(3) What must the pitch of the roof be, or can swept valleys be worked on a normal roof, say, 45 pitch?

Can you supply us with a diagram showing the set out? H. BELLAMY.

Smoke Nuisance.

SIR,—A, B, C & D purchase houses on a new estate, freehold. B erects a copper in his back garden with the flue pipe attached by stays into the wall of his house, but as the iron flue is only carried up 2 ft. above the eaves the smoke blows downwards and is carried along the walls of those adjoining, causing smoke and dirt and smuts, also an offensive smell caused by refuse burning, to enter the windows and doors. The brick flues of the houses are carried to above apex level. Should not B have his iron flue carried to the apex instead of just above the eaves-level? CROYDON.


THE BUILDER CONSTRUCTIONAL PROBLEM N°29
DETAIL SHOWING CONNECTION OF BASEMENT WALL WITH EXISTING BUILDING
DETAIL SHOWING CONNECTION OF NEW BRICKWORK WITH OLD
DETAIL SHOWING CONSTRUCTION AT HEAD OF PILES
PLAN SHOWING BASEMENT & AREA
PLAN
TRANSVERSE SECTION
LONGITUDINAL SECTION.

Winning Design, Problem 29. By MR. J. E. FARNSWORTH.

THE BUILDING TRADE.

THE MAKING-UP OF NEW AND PRIVATE STREETS.—IV

IN our previous article we considered the preliminary steps which have to be taken by the local authority before proceeding either under section 150 of the Public Health Act, 1875, or section 6 of the Private Street Works Act, 1892, to make up streets, and this brings us to the question of

Apportionment.

Under section 150 of the Public Health Act, 1875, as the theory of the Statute is that the owners or occupiers are in the first instance to be called upon to do the works required themselves, and it is only on their default that the local authority may do the works, no question of apportioning the expenses arises until the local authority has executed the works, but under section 6 of the Private Street Works Act as the local authority can straightway resolve to do the works a provisional apportionment is at once prepared with the specification, plans, and sections (see section 6 subsection (2) (c)) to be submitted to the authority for approval with or without modification or addition as they shall think fit.

We will now consider the procedure first under section 150 of the Public Health Act, and then under section 6 of the Private Street Works Act. Section 150, after providing that the plans and sections and estimate must be made and deposited at the offices of the authority, proceeds: "If such notice is not complied with" (that is, the notice provided for in the first part of the section calling upon the owners or occupiers of the premises fronting, adjoining, or abutting upon such parts of the street as require making up to do the works), the urban authority may, if they think fit, execute the works mentioned or referred to therein; and may recover in a summary manner the expenses incurred by them in so doing from the owners in default, according to the frontage of their respective premises, and in such proportion as is settled by the surveyor of the urban authority or (in case of dispute) by arbitration in manner provided by this Act; or the urban authority may by order declare the expenses so incurred to be private improvement expenses."

Arbitration When Apportionment Disputed.

The sections of this Act relating to arbitrations are sections 179, 180; but by section 24 of the Arbitration Act, 1889, the provisions of that Act also apply "except in so far as they are inconsistent with "the provisions of the Public Health Act." When the apportionment has been made, it appears from section 257 that notice of the apportionment must be served on the owners, for that section provides: "Where such expenses" (that is, the expenses incurred by the local authority) "have been settled and apportioned by the surveyor of the local authority as payable by such owner, such apportionment shall be binding and conclusive on such owner, unless within three months from service of notice on him by the local authority or their surveyor of the amount settled by the surveyor to be due from such owner he shall by written notice dispute the same."

There is some difficulty in connection with the mention of arbitration in this part of the section as to what is the extent of the jurisdiction conferred upon the arbitrator. At one time it was thought that an arbitrator under this section could deal with every dispute, and there are numerous dicta in decided cases to that effect, but in the light of the recent decisions we think it may be said that the jurisdiction of the arbitrator is confined to those questions which are in the first instance settled by the surveyor.

In Willesden Local Board *v.* Wright (1896, 2 Q.B. 412) the question was raised indirectly. In that case an arbitration had been held, and the amount due from the frontager on the apportionment had been fixed, but the local authority were out of time in taking proceedings under the Act to enforce the award, and the local authority applied for an order to enforce it under the Arbitration Act; but it was held, this being only an award as to the quantum or amount with no adjudication as to the liability of the person who is called upon to pay the amount, it was not enforceable under section 12 of the Arbitration Act, 1889. In that case Lord Justice A. L. Smith put the point thus: "That the £175 is now a fixed amount which cannot again be disputed, I do not doubt, for an arbitrator appointed under section 150 is not to determine when a dispute arises anything other than the amount at which the liability is to be assessed."

But the point has been settled even more definitely by the Court of Appeal in the comparatively recent case in *re* Stoker and Morpeth Corporation Arbitration (1915, 2 K.B. 511). There an arbitrator had found against the frontager for the apportioned amount, but he had also held that the road was a "street" and that it was not repairable by the inhabitants at large, and the Court of Appeal held that he had exceeded his jurisdiction, and the award was set aside, the limits of the arbitrator's authority being those of the surveyor. This case is also an authority as to what will be a binding submission to arbitration under the Act. It therefore appears that when an owner has received notice of the apportionment he has three months in which to decide whether he will dispute the apportionment and apply for arbitration (see section 257), or the apportionment will become binding and conclusive, subject, however, to what we have to refer to below, another method of questioning the apportionment—an appeal to the Local Government Board (now the Minister of Health) under section 268.

The notice of apportionment having been served on the owner, unless he disputes the apportionment and applies for arbitration, the next step taken by the local authority will be a demand for payment of the sum apportioned preparatory to taking summary proceedings, and it is when this demand is made that an appeal can be made to the Minister of Health within 21 days under section 268 of the Act. (Reg *v.* Local Government Board, 10 Q.B.D. 309).

Appeal to Minister of Health.

Section 268 provides: "Where any person deems himself aggrieved by the decision of the local authority in any case in which the local authority are empowered to recover in a summary manner any expenses incurred by them, or to declare such expenses to be private improvement expenses, he may within 21 days after notice of such decision "address a memorial to the Local Government Board," now the Ministry of Health, stating the ground of his complaint, but the decision of the Board shall be "binding and conclusive on all parties."

The "decision" as we have stated above thus appealed against is the decision to take steps to enforce the claim as evinced by the demand note (Reg *v.* Local Government Board *ubi sup*). It also appears from the same case that if an appeal is made under section 268 the Local Government Board has jurisdiction to consider all matters so as to enable them to make such an order as "may seem equitable" under the section—an order which is final.

When apportionment Conclusive.

We express an opinion with some diffidence as the law is very confused, but it appears that if a frontager desires to raise any question connected with an apportionment as such—that is, questions of amount, measurement, etc., apart from any question of law—he must take steps to question it under section 150 or appeal under section 268 to the Minister of Health, and not defer raising any such points until proceedings to recover the apportioned sums are taken.

This is an extremely important point to bear in mind, for if an owner merely waits until proceedings are actually taken by the local authority, taking no step to question the apportionment, on those proceedings he will be excluded from raising any points in regard to it, the only defences then available being those which go to show that there was no jurisdiction at all and that the whole proceedings are bad, as, for instance, that the street was a highway repairable by the inhabitants at large, or that the statutory formalities had not been observed. This is even the case if there was any jurisdiction at all, but other matters were included. In *in re* Wake (12 Q.B.D. 142), in summary proceedings by the local authority to recover the apportioned amount under section 150 the frontager contended that part of the work, the expenses of which had been apportioned upon him, had been done upon the land of a private owner; but it was held that as part of the work had been done upon a "street" the local authority had power to fix the sum to be apportioned and the magistrates had no jurisdiction to entertain the complaint and could only make an order for the apportioned sum, and if the frontager was aggrieved by what the local authority had done, his only remedy was to appeal to the Local Government Board under section 268. This case was followed in Mayor of Derby *v.* Grudgings (1894 2 K.B. 496). There the apportionment included a carriage-way as well as a footway upon which the frontager's premises abutted. The frontager had taken no steps to question the apportionment, but before the justices he alleged that the carriage-way was repairable by the inhabitants at large, but offered to pay so much of the claim as related to the footway, an offer declined by the local authority. The justices had found as facts that the carriage-way was a highway repairable by the inhabitants at large, but the footway had not been taken over, and dismissed the complaint, but stated a case for the opinion of the Court. It was held on the authority of *in re* Wake (*ubi sup*) that as the authority had jurisdiction to make an apportionment as to the footway and that had not been questioned under section 257, the whole apportionment was conclusive and could not be disputed in the summary proceedings, and the case was remitted to the justices to make an order in favour of the local authority. Mr. Justice Charles in that case said: "Now there can be no doubt that an apportionment under section 150 is not conclusive of every defence which can be set up when the frontager is called upon to pay. He may say that the place is not a 'street,' or that he has no premises fronting upon the street, or that the place is a highway repairable by the inhabitants at large. He may set up all those defences, and as it seems to me any other defence which offers an answer to the whole of his legal liability. But here he cannot say that he has a defence to the whole legal liability which is sought to be imposed upon him because he is admittedly liable in respect of the footpath, and I am of the opinion that the question in this case, not being one which goes to the whole of his liability, becomes a question of the amount of his liability, and if so

the apportionment not having been challenged under section 257 is conclusive."

A case we mentioned in our third article, Stourbridge Urban District Council *v.* Butler and Grove (1908, *Weekly Notes*, 210; *The Builder*, 5 December, 1908) affords an example of a case where the defence goes to the whole of the liability, viz., an irregularity in complying with the statutory notices.

It appears from what we have said above that if a frontager desires to question the apportionment pure and simple he can either apply for arbitration or he can appeal to the Minister of Health. If, however, there are complex questions over some of which there is authority in the local authority which will give the Court of Summary Jurisdiction jurisdiction, then he must appeal to the Minister of Health. It is only where the frontager is certain that he has a defence in law which will cover the whole of his liability that he can lie by and take that defence in the summary proceedings.

Private Improvement Expenses.

Before comparing the procedure under the Public Health Act, 1875, with the procedure under the Private Street Works Act two other observations may be made. We have referred above to Private Improvement Expenses, and these are dealt with in sections 213, 214, 215 of the Public Health Act, 1875. By section 213, instead of recovering the amount expended under section 150 from the frontagers, those expenses may be declared by the authority to be private improvement expenses which may be levied in the form of a special rate on the occupier of the premises, but which in the event of the premises becoming unoccupied before the sum is fully paid off become a charge on the premises. From the wording of section 268 "Where any person deems himself aggrieved by the decision of the local authority in any case in which the local authority are empowered to recover in a summary manner any expenses incurred by them or to declare such expenses to be private improvement expenses, he may appeal to the Local Government Board," it would appear that on an appeal to the Minister of Health the question could be raised as to whether the expenses sought to be recovered should not instead of being recovered be declared private improvement expenses. (See dictum of Lord Justice Brett in Reg. *v.* Local Government Board *ubi sup.*)

THE RATING OF FLATS

SOME interesting points appear to have been raised in the rating appeal Christmas *v.* Lewisham Union Assessment Committee, heard at the London Quarter Sessions on July 14 and 15, and reported in "Rating and Income Tax" in the issues of July 17 and 24, but a settlement of the case with some reduction of the assessments in the appellant's favour rendered any legal decision unnecessary and we only refer to the case on one point.

One of the appellant's contentions was that flats erected since the war and therefore uncontrolled should not be assessed upon the actual rentals, but on a comparative basis with flats existing in 1916 and still controlled and flats existing in 1916 but since decontrolled, or under section 12 subsection (9) of the Rent Act, 1920, by reference to the rent charged by a local authority for "similar" houses forming part of a housing scheme. As we have said no decision was given and we only refer to the case because it may be interesting to see the principle upon which, according to Counsel's statement, the respondents arrived at the assessment of flats erected since control ceased.

Counsel explained that in the case of houses existing in 1916 and still controlled, and houses then existing but since decontrolled there was the assessment of 1916, which could form the basis of calculation, but that in the case of flats erected or converted since 1919, there being no assessment which could be referred to the respondents had adopted the following method to secure equality. They had first deducted from the gross rents of those flats an allowance for rates and the services supplied by the landlord, and then had made further allowances by a method of scaling down. The average increase in rents in Lewisham for uncontrolled houses and flats was estimated as between 80 and 85 per cent., whilst, of course, the increase in controlled rents was limited to 40 per cent. Supposing, therefore, a pre-war rent of £100 was taken, the post-war rent, if uncontrolled, would be £180, whilst if controlled it would be £140. This difference of £40 was 22⅔ per cent. of £180, the uncontrolled rent, and this percentage had been applied in the scaling down.

No decision having been given, we can carry the matter no further, but from the report of some observations made by the Chairman after a settlement was arrived at, it appears that upon the appellant's evidence as to the assessment of similar properties the Court received the impression that the assessments had been on the high side, but that the principle adopted by the respondents was approved, subject to the question whether the scaling down had been sufficient, and it was on this point that the Court during the hearing had suggested that a settlement might be arrived at by the parties.

NEW BUILDINGS IN LONDON.

Coldharbour-lane, S.E.—MANSE.—Collections are being made by Congregationalists to save their church in Coldharbour-lane, S.E., which, regarded by the L.C.C. as a "dangerous structure," has been ordered to be demolished by the end of September. Plans have been prepared for the erection of a manse for the minister, the Rev. E. Scott Wilkinson. About £1,000 will be needed.

Horseferry-road.—POWER STATION.—A new electric power station is now being erected by Messrs. Mullen & Lumsden, building contractors, of 41, Eagle-street, W.C.1, for the Westminster Electric Supply Corporation, Ltd. Messrs. Archibald Dawnay & Sons are carrying out the steelwork. The architect for the work is Mr. C. Stanley Peach, F.R.I.B.A., 60, Warwick-square, S.W.1.

Kensington.—CONVERSION.—Messrs. Mullen & Lumsden, of 41, Eagle-street, are converting 68, Ennismore-gardens into high-class flats. Messrs. Rogers, Chapman & Thomas are the surveyors.

Morden. — BUILDING. — Building operations near the new underground station have been in hand for some months past, and plans for over 500 buildings have been approved by the local authorities. Among the projects scheduled is an extensive housing estate scheme of the L.C.C. covering an area of over 800 acres. The cost of the new extension will be nearly £3,000,000.

Vauxhall Bridge-road.—BANK.—A new bank is being erected at the corner of Churton-street for Barclays Bank, Ltd. The general contractors are Messrs. Mullen & Lumsden, Ltd., 41, Eagle-street, W.C.1. The granite work is being executed by Messrs. Fenning & Co., Palace Wharf, Ranville-road, W.6, and the steelwork by the Aston Construction Co., Eagle Wharf-road, N.1. Messrs. Lander, Bedells & Crompton, of 6, John-street, Bedford-row, W.C.1, are the architects.

Victoria.—HALL.—A new underground luggage hall for the accommodation of Continental travellers' luggage is in course of construction at Victoria Station. The new luggage hall is situated under the Brighton side of the station, and will be connected by a subway with the continental arrival platform.

Obituary.

The death occurred at Wadebridge, Cornwall, last week, at the age of 78, of Mr. Nicholas Robins, who was foreman of the gangs which quarried and cut the granite used in the construction by Sir J. H. Douglass in 1882 of the fourth (and existing) Eddystone Lighthouse. Each of the huge blocks was so cut to dovetail into the other blocks above, below, and at its sides.

EGYPTIAN DRAINAGE CONTRACTS

Mr. Philip Chapman (Director, Philip Chapman & Co., Ltd., export merchants, 5, Copthall Buildings, London, E.C.2) writes:—

SIR,—I have just returned from a three months' visit to Egypt, and was repeatedly asked, "Why do not British contractors tender for the many drainage schemes direct?" In a recent adjudication the lowest price was put in by a local contractor (who specified for British pipes) at £130,000 against a Continental tender of £131,000. In each case it was for the complete work—*i.e.*, labour, excavating and laying the pipes.

Perhaps the English contractors do not realise the enormous development that is taking place in Egypt, particularly in the interior, both with regard to drainage and water schemes. It is not difficult to obtain an estimate for labour, excavation, etc., from a local contractor who is experienced in this work, and who could co-operate with the technical man sent out from England.

I shall be only too pleased to give further information should any of your readers be interested in the matter.

Brick Test.

The result of a test of the action of frost on "Phorpres" Fletton bricks recently made by Messrs. Kirkaldy & Son, engineers, which included both the ordinary and multi-coloured rustic facing bricks is shown as follows:—

The bricks were saturated with water and were frozen and thawed alternately twenty times during periods of twelve hours each. Test No. 2403: Six Fletton bricks, ordinary plain surfaces, recessed one side. Two bricks were slightly attacked on corners and edges, while others were apparently undamaged.

Test No. 2404: Six Fletton bricks, with one rustic face, recessed one side: The rustic faces were softened and loosened in places where the moulding was originally imperfect, but not where the moulding was originally clean and sharp. The corners and edges of the rustic faces were slightly attacked, but the edges of the plain faces, except in one brick, were apparently undamaged.

Absorption after 24 hours immersion in water:—Test No. 2403, plain Flettons, 10.8, 11.1, 10—average, 10.6 per cent. Test No. 2404, rustic Flettons, 11.5, 12, 11—average, 11.5 per cent.

Elgin Building Dispute.

As the officials of the Scottish Building Trades Federation have failed, it is stated, to compel certain of their own members to observe an eight-hours day, all branches of the industry in Elgin are involved in a strike with the object of compelling the employers to secure obedience on the part of the defaulting trade unionists. The employers take the view that men who wish to work for nine hours a day should be allowed to do so, and that in any case it is for the Federation officials to secure obedience in their own house. They declined a conference and the Federation thereupon called out all the workmen engaged in the building trade in the town. The plumbers and carpenters have obeyed, but a considerable number of the masons are at work.

National Radiator Co.

The National Radiator Co., Ltd., of Hull, announce that they have arranged a West Country tour for the purpose of exhibiting latest types of their boilers and radiators. Places to be visited and dates are as follows:—Weymouth: motor park behind Royal Hotel, August 27. Sidmouth: Bedford Lawn Motor Park, Esplanade, August 30. Budleigh Salterton: Gush's Field, Station-road, August 31. Exeter: Motor Park, Paul-street, September 1 and 2. Taunton: The Parade, September 4. Shepton Mallet: Mid-Somerset Agricultural Show, September 7. Yeovil: Yeovil Agricultural Show, September 9.

RATES OF WAGES IN THE BUILDING TRADE

Every endeavour is made to ensure accuracy, but we cannot be responsible for errors.

	Masons	Bricklayers.	Carpenters Joiners	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers
Aberdare	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Accrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alfreton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Alnwick	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Altrincham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashford (Kent)	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Ashington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ashton-under-Lyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Aylesbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Aylsham	1/-	1/4	1/4	1/4	1/4½	1/4½	1/4	1/0½
Banbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Barnsley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barnstaple	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Barrow-in-Furness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Barry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Basingstoke	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Bath	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bedford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Berwick	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bexhill	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Birkenhead	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Birmingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bishop Auckland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackburn	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Blackpool	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bolton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bournemouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bradford	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bradford-on-Avon	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Braintree	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Brentwood	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Bridgwater	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Bridlington	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Brighton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Bristol	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bromsgrove	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Bromyard	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Bungay	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Burnley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Burton-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Bury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Buxton	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cambridge	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Canterbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Cardiff	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Carlisle	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chatham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Chelmsford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Cheltenham	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Chester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Chesterfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cirencester	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Clacton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Colchester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Coventry	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Cranbrook	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Crewe	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Cromer	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Darlington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Deal	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Denbigh	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Derby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Devizes	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dewsbury	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Doncaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dorchester	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Dorking	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Dovercourt	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Driffield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Droitwich	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Dudley	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Durham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Eastbourne	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
E. Glam.(Mon. Val)	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ely	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Exeter	1/7	1/7	1/7	1/7	1/7	1/7	1/6	1/2½
Exmouth	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Fakenham	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Felixstowe	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1 1½
Folkestone	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Frome	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Glossop	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Gloucester	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Godalming	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Goole	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Gosport	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Grantham	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Grays	1/8½	1/8½	1/8½	1/8½	1/8½	1/8½	1/7½	1/3½
Great Yarmouth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Grimsby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Guildford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Halifax	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harpenden	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Harrogate	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hartlepools	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Harwich	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Hastings	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hatfield	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hednesford	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Hereford	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Herne Bay	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Hertford	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hitchin	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Hoddesdon	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Holt	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Huddersfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hull	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Hunstanton	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Huntingdon	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Isle of Wight	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Ipswich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Keighley	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Kettering	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Kidderminster	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
King's Lynn	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Lancaster	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leamington Spa	1/8	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Leeds	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leicester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Leighton Buzzard	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Lichfield	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Lincoln	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Littlehampton	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Liverpool	1/10	1/10	1/10	1/11	1/10	1/10	1/9½	1/4½
Llandudno	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Llanelly	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
London:								
12 m. radius	1/9½	1/9½	1/9½	1/9½	1/9½	1/9½	1/8½	1/4½
12–15 m. radius	1/9	1/9	1/9	1/9	1/9	1/9	1/8	1/4
Loughborough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Lowestoft	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Luton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Macclesfield	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Maidstone	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Malvern	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Manchester	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Mansfield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Margate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Market Harborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Matlock	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Melton Constable	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Melton Mowbray	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Merthyr Tydfil	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Middlesbrough	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newark	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Newbury	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Newcastle-on-Tyne	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Newcastle-ur-Lyme	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
New Forest	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newmarket	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Newport, Mon.	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Northampton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Norwich	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Nottingham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Nuneaton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oakham	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Oldham	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Oxford	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Paignton	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Peterborough	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Plymouth	1/8	1/8	1/8	1/8	1/8	1/8	1/7	1/3½
Pontypridd	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Portsmouth	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Preston	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Ramsgate	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Reading	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Redcar	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Redditch	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Reigate	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Retford	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Ripon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Rochdale	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Rochester	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Rugby	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Saffron Walden	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
St. Albans	1/6½	1/6½	1 6½	1/6½	1/6½	1/6½	1/6½	1/2
St. Helens	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Sawbridgeworth	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Saxmundham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
Scarborough	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Sevenoaks	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Sheffield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Shrewsbury	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Sittingbourne	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Southampton	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Southend-on-Sea	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Southport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
South Shields	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stevenage	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Stockport	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stockton-on-Tees	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stoke-on-Trent	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Stourbridge	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stourport	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Stowmarket	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Stratford-on-Avon	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Stroud	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5	1/1½
Sunderland	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swaffham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Swansea	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Swindon	1/6	1/6	1/6	1/6	1/6	1/6	1/5	1/1½
Tamworth	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Taunton	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Thetford	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Torquay	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Totnes	1/5	1/5	1/5	1/5	1/5	1/5	1/4½	1/1
Trowbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/3½	1/0½
Tunbridge Wells	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Uttoxeter	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/5½	1/1½
Wakefield	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Walsall	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wallsend	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warminster	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Warrington	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Warwick	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Wells (Norfolk)	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Welwyn Gar. City	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
West Bromwich	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Weston-sup.-Mare	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Weymouth	1/5	1/5	1/5	1/5	1/5	1/5	1/4	1/1
Whitby	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Wigan	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Winchester	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Windsor	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/1½
Wisbech	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Wolverhampton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Woodbridge	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/4½	1/0½
Worcester	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worksop	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/6½	1/2
Worthing	1/5	1/5	1/5	1/5	1/5	1/5	1/5	1/1
Wrexham	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/7½	1/2½
Wroxham	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	1/3½	11½
Wymondham	1/4	1/4	1/4	1/4	1/4	1/4	1/4	1/0½
York	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½

(For rates of wages in the Building Trade in Scotland, see page 355.)

CONTRACTS, COMPETITIONS, &c.

For some contracts still open, but not included in this List, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender; that a fair wages clause shall be observed; that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender unless stated to the contrary.

The date given at the commencement of each paragraph is the latest date when the tender, or the names of those willing to submit tenders, may be sent in; the name and address at the end is the person from whom or place where quantities, forms of tender, &c., may be obtained.

BUILDING, PAINTING, ELECTRIC LIGHTING, HEATING, etc.

AUGUST 30.—**Baltinglass.**—HOSPITAL.—For the building of a district hospital at Balti : lass, for the Wicklow County Board of Health and Public Assistance. Mr. P. W. Sheehan, secretary, Board of Health Offices, Rathdrum. Deposit £1.

AUGUST 30.—**Bebington and Bromborough.**—HOUSES.—100 houses on the housing site, for the U.D.C. H. W. Corrie, surveyor. Deposit £2 2s.

AUGUST 30.—**Bourne.**—HOUSES.—Erection of eight houses in Burghley-street, and four houses at Dyke, for the U.D.C. A. W. Plowright, surveyor, Bourne.

AUGUST 30.—**Edinburgh.**—ELECTRIC LIGHTING, &c. Electric light and power installations and roads at two hostels now in course of erection at Craigmillar Park, Edinburgh, for the Edinburgh Association for the Provision of Hostels for Women Students. F Wood, architect, 6A, George-street, Edinburgh.

AUGUST 30.—**Harpenden.**—PAINTING.—For painting and decorating the exterior and interior of the Public Hall. Surveyor, Public Hall, Harpenden.

AUGUST 30.—**Harrogate.**—EXTENSIONS.—Various works at the north and south Sewage Disposal Works, viz.:—Extensions to overflows (North Works), construction of lagoons (North Works), new 15 in. overflow (North Works), new 12 in. s.w. drain (South Works), for the T.C. C. E. Rivers, Borough Engineer.

AUGUST 30.—**Macclesfield.**—BUILDING.—For the erection of a one-story building at the institution of the B.G. Mr. A. E. Bradburn, architect, King Edward-street, Macclesfield.

AUGUST 30.—**Nantyglo and Blaina.**—HOUSES.—For the erection of 20 houses at Pfosmaen, Nantyglo, for the U.D.C. Architect, Council Offices, Blaina.

AUGUST 30.—**Stevenage.**—HOUSES.—Erection of 60 houses, for the U.D.C. Mr. R. A. Gandy, surveyor, Stevenage, Herts. Deposit £2 2s.

AUGUST 30.—**Westhampnett.**—HOUSES.—Erection of 22 houses in the parishes of West Wittering and West Stoke, for the R.D.C. Mr. W. D. Rasell, Clerk, Council Offices, Pallant House, Chichester.

AUGUST 31.—**Atherstone.**—HOUSES.—For building about 100 houses in five of the parishes within the rural district, for the R.D.C. Mr. H. J. Coleby, Surveyor, Council Offices, 102, Long-street, Atherstone.

AUGUST 31.—**Barking.**—EXTENSION.—Construction of foundations and buildings for the extensions at Barking power station, for the County of London Electric Supply Co., Ltd. Sir Alexander Gibb & Partners, Queen Anne's Lodge, London, S.W.1. Deposit £15 15s.

AUGUST 31.—**Birmingham.**—GALLERIES, &c.—For the reinforced concrete galleries and incidental building work in connection with the reconstruction of the Town Hall, for the T.C. Mr. H. H. Humphries, City Engineer, Council House, Birmingham. Deposit £2 2s.

AUGUST 31.—**Bradford.**—PAINTING.—Internal and external painting at Grassington Sanatorium, for the T.C. City architect, Town Hall, Bradford.

AUGUST 31.—**Brighton.**—ANNEXE.—For building annexe to block at Institution, for the B.G. Mr. E. W. Long, architect, 6, Old Steine, Brighton.

AUGUST 31.—**Caerphilly.**—WIRING.—For the installation of wiring in 50 houses now in course of erection at "The Grange," for the U.D.C. Mr. W. C. B. Hillman, Electrical Engineer, Council Offices, Caerphilly.

AUGUST 31.—**Campile.**—STATION.—Erection of a station for the Garda Siochana at Campile, co. Wexford, for the Commissioners of Public Works, Ireland. J. J. Healy, secretary, Office of Public Works, Dublin. Deposit £1.

AUGUST 31.—**Cheadle and Gatley.**—SUB-STATION.—For the erection of a sub-station building, for the U.D.C. R. W. Willis, 37, High-street, Cheadle. Deposit £1 1s.

AUGUST 31.—**Darlaston.**—ADDITIONS, &c.—(*a*) Darlaston Slater-street Council school: Erection of new department for 336 infants, and extension of existing building; (*b*) Darlaston Salisbury-street Council school: Adaptation of existing buildings as an upper standard school, including the erection of four additional classrooms, science laboratory, assembly hall, staff-rooms, &c., for the Staffordshire E.C. Mr. F. A. Hughes, Director of Education, County Education Offices, Stafford. Deposit £3 3s. each contract.

AUGUST 31.—**Daventry.**—HOUSING.—Erection of eight houses at Badby and 12 houses at Fiore, for the R.D.C. J. B. Williams, architect, the Moot Hall, Daventry.

AUGUST 31.—**Dublin.**—HEATING INSTALLATION.—Installation of a hot-water heating and supply apparatus at the Custom House, Dublin, for the Commissioners of Public Works. Mr. J. J. Healy, Secretary, Office of Public Works, Dublin. Deposit £1

AUGUST 31.—**Dunoon.**—EXTENSIONS.—For (1) new operating theatre and ward kitchen; (2) alterations to laundry block; (3) new four-apartment lodge, at District Cottage Hospital, for the Committee. Sir John Burnet, Son & Dick, architects, 239, St. Vincent-street, Glasgow.

AUGUST 31.—**Dunoon.**—REPAIRS.—For the repair of the goods gangway at Dunoon pier, for the T.C. Mr. William Rodger, Pier Engineer, Dunoon.

AUGUST 31.—**Edinburgh.**—LABORATORIES.—For the erection of mining laboratories in the Grassmarket, for Governors of George Heriot's Trust. Mr. John Anderson, Superintendent of Works, 20, York-place, Edinburgh.

AUGUST 31.—**Evesham.**—ADDITIONS.—For additions to the Evesham Hospital, for the Committee. Messrs. Bateman, 18, Bennetts Hill, Birmingham.

AUGUST 31.—**Goole.**—ALTERATIONS.—For alterations and extensions to the Post Office and Telephone Exchange, Goole, for H.M. Office of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

AUGUST 31.—**Huddersfield.**—BUILDING.—Erection of a one-storey building in Waverley-road, Huddersfield. Lunn & Kaye, architects, Milnsbridge, Huddersfield.

AUGUST 31.—**Hulme.**—EXTENSION.—Building new science block, gymnasium, and extension to hall at the Hulme Grammar School, Alexandra Park, Manchester. Francis Jones & H. A. Dalrymple, architects, 178, Oxford-road. Deposit £1 1s.

AUGUST 31.—**London.**—PAINTING.—Internal painting at the Ministry of Health, Maida Vale Rink, Delaware-road, W., for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

AUGUST 31.—**Middlesex.**—HOUSES, ROADS AND SEWERS.—Construction of new roads and sewers, and the erection of 168 houses on the Greenford-road site, for the Greenford U.D.C. A. Lloyd Jones, Clerk to the Council, New Broadway Chambers, New Broadway, Ealing, W. 5. Deposit £2 2s.

AUGUST 31.—**North Shields.**—IMPROVEMENTS.—Construction of a new quay, transit shed, passenger platform, railways, &c., at the river wall, Albert Edward dock, North Shields, for the Tyne Improvement Commission. A. Blacklock, secretary, Tyne Improvement Commission Offices, Bewick-street, Newcastle-upon-Tyne. Deposit £10 10s.

AUGUST 31.—**Nottingham.**—SUB-STATION.—For the erection of a transformer sub-station in Mansfield-road, Carrington, and a transformer sub-station in Churchfield-lane, Radford, for the T.C. Mr. T. Wallis Gordon, City Engineer, Guildhall. Deposit £2 each station.

AUGUST 31.—**Plymouth.**—FLATS.—For the erection of two blocks of brick houses, containing 18 flats, at Strand-street, Stonehouse, for the T.C. Corporation Housing Department, Sun Buildings, Plymouth. Deposit £2 2s.

AUGUST 31.—**Sheerness.**—HOUSES.—Erection of 20 parlour-type houses in blocks of two, three, and four, for the U.D.C. Mr. W. P. Puddicombe, Engineer, Council Offices, Sheerness. Deposit £2 2s.

AUGUST 31.—**Stafford.**—ADDITION AND ADAPTATION.—(*a*) Darlaston, Slater-street Council School, erection of new department for 336 infants, with assembly hall, staff rooms, cloakrooms, out offices, &c., also for extension of existing building; (*b*) Darlaston, Salisbury-street Council School, adaptation of existing buildings as an upper standard school, including the erection of four additional classrooms, science laboratory, assembly hall, staff rooms, &c., for the Staffordshire Education Committee. F. A. Hughes, Director of Education, County Education Offices, Stafford Deposit £6 6s. (£3 3s. for each).

AUGUST 31.—**Whitby.**—ADDITIONS.—Completion of certain additions to the band pavilion, West Cliff, Whitby, for the U.D.C. L. M. Blanchard, surveyor to the Council, Council Offices, Whitby. Deposit £1 1s.

SEPTEMBER 1.—**Athlone.**—HOUSES.—Twelve houses (semi-detached) and the construction of sewers and water mains in connection, for the U.D.C. P. J. O'Loughlin, Town Surveyor, The Courthouse. Deposit £2.

SEPTEMBER 1.—**Athlone.**—Reconstruction of waterworks pump-house and erection of new filter house, for the U.D.C. P. J. O'Loughlin, Town Surveyor The Courthouse. Deposit £5.

SEPTEMBER 1.—**Bradford.**—BANK.—For the various trades in connection with the erection of new bank premises, St. James's-market, for the T.C. City Architect, Town Hall, Bradford.

SEPTEMBER 1.—**Dublin.**—PAINTING.—Painting works, for the B.G. J. P. Condon, Clerk, 1, James-street, Dublin.

SEPTEMBER 1.—**Edinburgh.**—CONVENIENCE.—For the erection of a ladies' convenience at Tollcross, for the T.C. Mr. William Allan Macartney, Burgh Engineer, Edinburgh.

SEPTEMBER 1.—**London.**—ALTERATION AND EXTENSION.—To the Electricity sub-station at Evelyn-street, Hoxton, N.1, for the Metropolitan Borough Council of Shoreditch. T. L. Hustler, Borough Surveyor, Town Hall, Old-street, E.C.2. Deposit £2 2s.

SEPTEMBER 1.—**Loughrea.**—SCHOOLS.—Erection of National Schools and additions to the Convent of Mercy, Loughrea, co. Galway. Morris & Kavanagh, 68, Harcourt-street, Dublin. Deposit £3 3s.

SEPTEMBER 1.—**Porth.**—PAINTING.—Painting and decorating the interior walls of chapel, also painting external wood and ironwork of chapel, vestry, and caretaker's house, for the trustees of Bethlehem C.M. Chapel, Porth, Rhondda Valley. W. D. Morgan, architect, Pentre, Rhondda.

SEPTEMBER 1.—**Rathdown.**—REPAIRS.—Keeping in repair 42 fountains in the district for a period of one year, for the No. 1 R.D.C. P. H. McCarthy, surveyor, Loughlinstown.

SEPTEMBER 1.—**Shoreditch.**—SUB-STATION.—For the alteration and extension of electricity sub-station at Evelyn-street, for the B.C. Mr. T. L. Hustler, Borough Surveyor, Town Hall, Old-street, E.C.2. Deposit £2 2s.

SEPTEMBER 1.—**Wellington (Salop).**—HOUSES.—Six houses at Ketley and four at Ellerdine, for the R.D.C. R. Blakeway Phillips, surveyor, District Surveyor's Office, Edgbaston House, Wellington, Salop.

SEPTEMBER 2.—**East Ham.**—HOUSES.—For the erection of 26 double-tenement houses and 12 single-tenement houses on the central site, High-street South, East Ham, for the B.C. Borough Engineer, Town Hall, East Ham. Deposit £2.

SEPTEMBER 2.—**Fulham.**—ADDITIONS.—For the provision of a new roof story over the existing building and the erection of a new wing (to provide a further 55 bedrooms) at the Nurses' Home, Fulham Palace-road, W.6, for the Fulham B.G. A. Saxon Snell & Phillips, 9, Bentinck-street, Manchester-square, W.1. Deposit £5.

SEPTEMBER 2.—**Glendevon.**—HOUSE.—Erection of a sluice-keeper's house at Glendevon Reservoir, Perthshire, for the Fife C.C. H. F. Hodge, District Engineer, County Buildings, Dunfermline.

SEPTEMBER 2.—**Hawarden.**—HOUSES.—For the erection of 48 Class A and 32 Class B houses at Ewloe, for the R.D.C. Mr. F. Barrett, Wolf House, Hawarden.

SEPTEMBER 2.—**Keynsham.**—HOUSES.—Fourteen houses on the housing site at Whitchurch, in connection with which the construction of suitable means for the treatment of the drainage from the houses is required, for the R.D.C. H. W. Argile, Building Surveyor, 16, High-street, Keynsham, near Bristol.

✱SEPTEMBER 2.—**Linthorpe, Middlesbrough.**—TELEPHONE EXCHANGE.—Erection of at Linthorpe, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

SEPTEMBER 2.—**London.**—HOUSES.—Erection of 26 double-tenement houses and 12 single-tenement houses on the Central site, High-street South, East Ham, for the County Borough Council. Borough Engineer, Town Hall, East Ham, E.C. Deposit £2.

SEPTEMBER 2.—**Sutton-in-Ashfield.**—HOUSES.—For the erection of 120 dwelling-houses, parlour and non-parlour types, to be erected in pairs and blocks of four, and the construction of new roads, approaches, and sewers. The scheme is divided into five sections. Messrs. Warner & Bocock, architects, Mansfield Road, Sutton-in-Ashfield. Deposit £3 3s.

SEPTEMBER 2.—**Tralee.**—HOUSES.—Erection of sixteen houses, for the U.D.C. O. G. Tough, surveyor, Tralee.

SEPTEMBER 2.—**Urmston.**—HEATING.—For the heating of the Council Offices, Crofts Bank-road, for the U.D.C. Surveyor, Council Offices, Urmston. Deposit £1 1s.

SEPTEMBER 3.—**Ballyheane.**—RESTORATION.—Restoration of Ballyheane ex-R.I.C. Barracks, co. Mayo, for the Commissioners of Public Works, Ireland. J. J. Healy, secretary, Office of Public Works, Dublin. Deposit £1 1s.

SEPTEMBER 3.—**Buckfastleigh.**—LODGE.—For the erection of a park-keeper's lodge in Victoria Park, for the U.D.C. Messrs. Petter & Warren, architects, Old Sarum, Yeovil.

SEPTEMBER 3.—**Coventry.**—GENERATING STATION.—Buildings, foundations and subways, and steam and water pipework, and cooling towers, &c., for the T.C. G. Tough, Engineer and Manager. Deposit £5 5s.

SEPTEMBER 3.—**Edinburgh.**—CONVERSION.—Conversion of a shed into a day-room at Craiglockhart Poorhouse, for the Edinburgh P.C. J. M. Johnston, F.R.I.B.A., 47, Charlotte-street, Leith.

SEPTEMBER 3.—**Hull.**—HOUSES.—For the erection of 24 non-parlour houses and two electric parlour houses on the Cottingham-road housing site. City Architect, Hull.

SEPTEMBER 3.—**London.**—HEATING, &c.—For accelerated low-pressure hot-water heating, &c., at the Strand telephone exchange, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

SEPTEMBER 3.—**Northfleet.**—ELECTRIC INSTALLATION.—Complete electric installation for 88 houses on the Northfleet House Estate, for the U.D.C. E. Talbot Fox, Housing Surveyor, Council Offices, Northfleet. Deposit £1 1s.

SEPTEMBER 4.—**Conway.**—HOUSES.—Erection and completion of 76 houses on the housing site, The Morfa, Conway, for the Corporation. F. A. Delamotte, A.M.I.C.E., Borough Engineer, Municipal Buildings, Conway. Deposit £2 2s.

SEPTEMBER 4.—**Dorking.**—HOUSES.—For the erection of 80 houses in one contract, for the T.C. Mr. S. Gettings, Surveyor, Council Offices, Dorking. Deposit £2 2s.

SEPTEMBER 4.—**East Dereham.**—COTTAGES.—For the erection of two pairs of cottages, for the U.D.C. Surveyor, East Dereham.

SEPTEMBER 4.—**Maghera.**—REPAIRS.—External plastering, repairs to tower and spire at the Catholic Church, Maghera, Virginia, co. Cavan, for Very Rev. B. Gaffney, P.P., V.F. Michael Grace, Oldcastle.

SEPTEMBER 4.—**Okehampton.**—HOUSES.—For the erection of 6 houses at Belstone and 8, 12 or 16 at Northtawton, for the R.D.C. Mr. J. W. Brimblecombe, surveyor, Okehampton.

SEPTEMBER 4.—**Pembroke.**—PAINTING.—For painting, &c., 158 cottages, for the U.D.C. Mr. J. C. Manly, Clerk, Town Hall, Ballsbridge, co. Dublin.

SEPTEMBER 4.—**Yeovil.**—HOUSES.—For the erection of 12 houses on the Grass Royal housing site, for the T.C. Messrs. Petter & Warren, architects, Old Sarum, Yeovil. Deposit £2 2s.

✱SEPTEMBER 6.—**Bognor.**—HOUSES.—Construction and completion of 46 houses, parlour and non-parlour type, on the Collyer housing estate, for the U.D.C. J. Draper, A.M.Inst.C.E., surveyor, High-street, Bognor. Deposit £2 2s.

✱SEPTEMBER 6.—**Bognor.**—PAINTING AND DECORATING.—Of 19 cottages, Nos. 29 to 47, Gravits-lane, for the U.D.C. J. Draper, A.M.Inst.C.E., surveyor, High-street, Bognor.

SEPTEMBER 6.—**Caerphilly.**—EXTENSION.—Extension of the omnibus garage in Mill-road, for the U.D.C. T. H. Richards, surveyor, Council Offices, Caerphilly. Deposit £2 2s.

SEPTEMBER 6.—**Enniskillen.**—HOUSE.—For building a residence. Mr. Charleton, County Surveyor's Office, Enniskillen. Deposit £2 2s.

SEPTEMBER 6.—**London.**—ELECTRIC WIRING.—For wiring and fittings of electric lighting, power, telephones, &c., at Hackney Institute. Chief Engineer, Old County Hall, Spring-gardens, S.W. Deposit £1.

SEPTEMBER 6.—**Windsor.**—STAIRCASE.—Supply and erection of an outside iron staircase at the Cottage Home for Girls at Ashdene, Englefield Green, for the Windsor B.G. J. E. Gale, clerk, 16, Sheet-street, Windsor.

SEPTEMBER 6.—**Wombwell.**—HOUSES.—Erection of 82 type "A" houses on a site situate near King's-road, for the U.D.C. D. H. Roberts, L.R.I.B.A., architect, Park-street, Wombwell. Deposit £2.

SEPTEMBER 7.—**Bangor (Ireland).**—ABATTOIR.—For the erection of an abattoir, for the U.D.C. Mr. J. Milliken, Clerk, Town Hall, Bangor.

SEPTEMBER 7.—**Belfast.**—EXTENSIONS.—For building extensions at Head Office, East Bridge street, and sub-station building at Dunville Park, for the Electricity Department. Mr. Johnstone Wright, City Electrical Engineer, East Bridge street, Belfast. Deposit £2 2s.

SEPTEMBER 7.—**Glasgow.**—ALTERATIONS.—For alterations at Glasgow Head Post Office (to form Repeater Station), for H.M. Commissioners of Works. Architect, H.M. Office of Works, 122, George-street, Edinburgh. Deposit £1 1s.

SEPTEMBER 7.—**Halifax.**—VARIOUS.—For the erection of the following works:—Tram shelter and public convenience at Tram Terminus, Shelf, for the Shelf U.D.C.; bungalow at Stump Cross, Halifax; house, Scotchman-road, Toller-lane, Heaton. Mr. G. R. Oddy, architect, Ward's End Chambers, Halifax.

SEPTEMBER 7.—**Hoylake.**—FOUNDATIONS.—For foundations for various new plant at Hoylake Gas Works, for the Hoylake and West Kirby U.D.C. Mr. A. G. Readdy, Manager, Town Hall, Hoylake.

SEPTEMBER 7.—**Kensington.**—HOUSES.—For the demolition of existing buildings and erection of 16 flats in Threshers-place, Notting Hill, for the B.C. Borough Engineer, Town Hall, Kensington, W.8. Deposit £2 2s.

SEPTEMBER 7.—**Kingswood.**—HOUSES.—Erection of 18 houses, for the U.D.C. H. Glynn Warne, architect, Council Offices, Kingswood. Bristol. Deposit £1 1s.

SEPTEMBER 7.—**Manchester.**—PAINTING.—For painting the iron bridges on the line of aqueduct from Ambleside to Manchester, for the T.C. Chief Clerk, Secretarial Section, Waterworks Offices, Town Hall, Manchester.

SEPTEMBER 8.—**Cardiff.**—MAINTENANCE.—For the execution of ordinary works and repairs at the buildings in the charge of H.M. Commissioners of Works in the Cardiff district. Contracts Branch, H.M. Office of Works, King Charles-street. S.W.1. Deposit 10s. 6d.

SEPTEMBER 8.—**Chelmsford.**—NEW SCHOOL.—Erection of new elementary school at Nevendon, Burnt Mill-road, for the E.C. of the Essex C.C. County Architect, Springfield Old Court, Chelmsford. Deposit £2 2s., to F. H. Owen, County Accountant, Duke-street, Chelmsford.

SEPTEMBER 8.—**Liverpool.**—MAINTENANCE WORKS.—For the execution of ordinary works and repairs at the buildings in charge of H.M. Commissioners of Works in the Liverpool district, for separate trades. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit 10s. 6d.

SEPTEMBER 8.—**Manchester.**—FOUNDATIONS, &c.—(a) Foundations, preliminary works and superstructure; (b) steelwork in Stores extension, in connection with the extension of the Barton Power Station, for the T.C. Mr. H. C. Lamb, Chief Engineer, Electricity Department, Town Hall, Manchester. Deposit £2 2s. each.

SEPTEMBER 8.—**Tilbury.**—SCHOOL ENLARGEMENT.—For the enlargement of Tilbury St. Chads' Elementary School, for the Essex C.C. Mr. Jno. Stuart, County Architect, Springfield Old Court, Chelmsford. Deposit £2 2s.

SEPTEMBER 9.—**Bristol.**—RECONSTRUCTION.—Of roof of Dublin shed, Broad Quay, for the Port Authority. Thomas A. Peace, Chief Engineer, Chief Engineer's Office, Avonmouth Dock. Deposit £3.

SEPTEMBER 9.—**Hitchin.**—SORTING OFFICE.—Erection of at Hitchin, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (Cheques payable to the Commissioners.)

SEPTEMBER 9.—**London.**—HEATING, &c.—For heating and ventilating work at the New Public Offices, Whitehall, S.W., for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

SEPTEMBER 9.—**Tavistock.**—HOUSES.—Erection of six houses at Whitchurch, for the R.D.C. T. H. Harris, surveyor, Townhall Chambers, Tavistock.

SEPTEMBER 9.—**Uxbridge.**—PAINTING.—For the exterior painting and repair of Hospital and Laundry Blocks, Porter's Lodge, and Mortuary, at their Hospital, Kingston-lane, Uxbridge, for the Uxbridge Joint Hospital Board. Mr. Wm. L. Eves, 54, High-street, Uxbridge.

SEPTEMBER 10.—**Bristol.**—PAINTING, &c.—Painting, repairs, &c., at (1) Relief depot and porter's lodge, Eastville Institution, and (2) casual wards and superintendent's house, Eastville Institution, for the B.G. Thos. S. Lamb, clerk, St. Peter's Hospital, Bristol.

SEPTEMBER 10.—**Chailey.**—HOUSES.—Erection of 115 houses, for the R.D.C. Mr. H. J. Tillson, Clerk Union Offices, West-street, Lewes, Sussex.

SEPTEMBER 10.—**Edinburgh.**—ELECTRIC WIRING.—For electric wiring (in steel conduit) at Edinburgh Castle, for H.M. Commissioners of Works. Architect, H.M. Office of Works, 122, George-street, Edinburgh. Deposit £1 1s.

SEPTEMBER 10.—**Portishead, Bristol.**—WIRELESS STATION.—Erection of, at Portishead, for the Commissioners of His Majesty's Office of Works. Contracts Branch, King Charles-street, London, S.W.1. Deposit £1 1s. (cheques payable to the Commissioners).

SEPTEMBER 11.—**Durham.**—CONVERSION.—For builders and other works, also for heating and hot water supply required to be done in the conversion of Seaham Hall into a tuberculosis hospital, for the Durham C.C. Messrs. W. & T. R. Milburn, architects, 19, Fawcett-street, Sunderland. Deposit £2 2s.

SEPTEMBER 11.—**Rochford.**—HOUSES.—Erection of 66 houses for the R.D.C. Mr. A. C. Madge, surveyor, Rayleigh, Essex. Deposit £1 1s.

SEPTEMBER 11.—**Rugby.**—SHEEP PENS.—For the erection of 36 additional sheep pens and other incidental works at the Rugby Cattle Market, for the U.D.C. Mr. J. H. Sharp, Surveyor. Deposit £1 1s.

✱SEPTEMBER 11.—**Southampton.**—ADDITIONS AND ALTERATIONS.—At the Tramway Offices, for the Corporation. Tramway Manager's Office, 161, Above Bar-street, Southampton. Deposit £2 2s. (to the Borough Treasurer).

SEPTEMBER 11.—**Staines.**—ELECTRIC LIGHTING.—For the installation of electric light in a part of their Infirmary, London-road, Ashford, for the Board of Guardians. The Master at the Institution.

✱SEPTEMBER 13.—**London.**—DWELLINGS AND SHOPS.—Erection of two blocks (including four shops in each block) at Brand-street area, Islington, for the L.C.C. Architect to the Council (Room No. 3), Westminster-bridge, S.E. Deposit £2 (to the cashier of the Council).

✱SEPTEMBER 13.—**London.**—DWELLINGS.—Erection of a block of 77 flat dwellings in Esher-street, Westminster, for the Westminster City Council. Drower & Brighton, quantity surveyors, 28, Victoria-street, S.W.1. Deposit £5 5s.

SEPTEMBER 13.—**Whitehaven.**—HOUSES.—For the erection of 82 houses, for the T.C. Borough Engineer, Town Hall, Whitehaven. Deposit £2 2s.

SEPTEMBER 14.—**London.**—HOSPITAL BUILDINGS.—Erection of an administration block, ward block, laundry block, caretaker's lodge, and outbuildings; re-conditioning of existing ward block at the Willesden U.D.C. Small-pox Hospital, Kingsbury, Middlesex. F. Wilkinson, Engineer to the Council, Town Hall, Dyne-road, Kilburn, N.W.6.

SEPTEMBER 14.—**Newcastle-on-Tyne.**—TELEPHONE EXCHANGE.—For the erection of the Central telephone exchange, Newcastle-on-Tyne, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

✱SEPTEMBER 14.—**Rochester.**—ALTERATIONS.—Sundry alterations in formation of new kitchens and offices at St. Bartholomew's Hospital, under the superintendence of Messrs. Read & MacDonald, architects. Stoner & Sons, Quantity Surveyors, Boston House, 63-4, New Broad-street, London, E.C. Deposit £2 2s.

SEPTEMBER 14.—**St. Albans.**—PAINTING.—For internal redecorations of the Council's houses on the following sites:—Brewhouse Hill, Wheathampstead; Kinsbourne Green; Wilkins Green-terrace, Smallford; Park-street, for the R.D.C. Mr. Henry F. Mence, Surveyor, 32, St. Peter's-street, St. Albans.

SEPTEMBER 14.—**Upton.**—SCHOOL.—Erection of school for 350 children at Upton, for the West Riding Education Committee. Education Department, County Hall, Wakefield.

SEPTEMBER 14.—**Willesden.**—ADDITIONS.—Erection of an administration block, ward block, laundry block, caretaker's lodge, and outbuildings, and reconditioning of existing ward block at the Small Pox Hospital, Kingsbury, for the U.D.C. Mr. F. Wilkinson, engineer, Town Hall, Dyne-road, Kilburn, N.W.6.

✱SEPTEMBER 15.—**Halifax.**—VARIOUS WORKS.—For excavator, mason and bricklayer, carpenter and joiner, slater and plasterer, plumber and glazier, electrician (wiring only to Nursery-lane scheme, section No. 4), painter, for the county borough of Halifax: 156 houses—Bracewell farm, 58 houses; Nursery-lane (section No. 3), 58 houses; Nursery-lane (section No. 4, Ovenden Cross), for the above mentioned trades. Borough Engineer, Crossley-street, Halifax. Deposit £2 2s.

SEPTEMBER 17.—**Portsmouth.**—CONVENIENCE.—Erection of public convenience, Clarence Esplanade, for the T.C. Mr. Arthur W. Ward, City Engineer, Guildhall, Portsmouth. Deposit £2.

NO DATE.—**Birmingham.**—SCHOOL EXTENSION.—For the extension of Shirley Church School. Messrs. Osborn & White, architects, 40, Bennett's Hill, Birmingham. Deposit £1 1s.

NO DATE.—**Buxton.**—RE-POINTING.—Re-pointing of St. Peter's Church, Fairfield. Chas. Flint, architect, Buxton.

NO DATE.—**Buxton.**—WALLING.—Construction of approximately 290 yds. of wall fencing in lime mortar, for the T.C. F. Langley, Borough Surveyor, Town Hall, Buxton.

NO DATE.—**Frimley.**—HOUSES.—Erection of 25 pairs of semi-detached houses, for the U.D.C. W. H. Tucker, architect, "Ayston," Firwood-drive, Camberley. Deposit £3 3s.

NO DATE.—**Kenfig Hill.**—CLUB.—For the erection of a club, consisting of ballroom, six-table billiard room, lounges, and various other rooms, at Kenfig Hill, for the Kenfig Hill and Pyle District Welfare Association. Messrs. Culpin & Bowers, architects, 3, Portsmouth-street, Lincoln's Inn, W.C.2.

MATERIALS, etc.

AUGUST 30.—**Dublin.**—SLEEPERS.—Supply to the Great Southern Railways, Ireland, of 5,300 cubic ft. of uncreosoted Baltic redwood crossing sleepers, 12 in. × 5 in. Stores Superintendent, Inchicore, Dublin. Charge 2s. 6d.

AUGUST 31.—**Dewsbury.**—PLUMBING.—For the supply of a quantity of piping and fittings to the B.G. Mr. E. T. Tunnicliffe, clerk, Union Offices, Wellington-street, Dewsbury.

AUGUST 31.—**Hammersmith.**—MATERIALS.—Six months' supply of carpenters' and engineers' sundries, builders' materials, &c., to the B.G. Clerk, 206, Goldhawk-road, W.

SEPTEMBER 3.—**Chatham.**—WATER CARTS.—Supply of two water carts (200 gallons capacity), to the T.C. R. L. Honey, F.S.I., Borough Engineer, Town Hall, Chatham.

SEPTEMBER 4.—**Brentford.**—MATERIALS.—Supply to the U.D.C. of shingle, lime and cement, oils and oilmen's sundries. Surveyor, Clifden House, Brentford.

SEPTEMBER 4.—**Lytham St. Annes.**—ROLLER.—For the supply of a 5-7-ton steam or petrol road roller, for the T.C. Mr. T. Bradley, Town Clerk, Town Hall, Lytham St. Annes.

SEPTEMBER 4.—**Merthyr Tydfil.**—MATERIALS.—For the supply of ironmongery, timber, cement, lime, slates, bricks, sewer pipes, limestone and tarred macadam paving stone, &c., for six months for the T.C. Borough Engineer, Town Hall, Merthyr Tydfil.

SEPTEMBER 4.—**Smethwick.**—MATERIALS.—Supply of bricks, cement, lime, castings, road material, &c., for six months. Mr. R. Fletcher, Borough Engineer, Smethwick.

SEPTEMBER 4.—**Warrington.**—WORK BENCHES.—For the supply of manual instruction work benches. Mr. J. Moore Murray, Secretary, Education Office, Sankey-street, Warrington.

SEPTEMBER 6.—**Stoke-on-Trent.**—MATERIALS.—Supply of cement, bricks, sanitary pipes, setts and kerbs, &c., for six months, to T.C. City Surveyor, Stoke-on-Trent.

SEPTEMBER 6.—**Warrington.**—CONDUITS.—Supply of earthenware conduits for one year, for the T.C. F. V. L. Mathies, Borough Electrical Engineer, Warrington. Deposit £1 1s.

SEPTEMBER 7.—**Bexley.**—ROLLER.—Supply of a single cylinder 8-ton steam road roller to the U.D.C. W. T. Howse, surveyor, Council Offices, Bexleyheath, Kent

SEPTEMBER 7.—**Hull.**—STORES.—Supply of stores for one year to the Humber Conservancy Board. A. W. Franklin, secretary, Conservancy-buildings, Hull.

SEPTEMBER 7.—**Westminster.**—MATERIALS.—For the supply of engineer's sundries, electric lamps, &c., for the B.G. Mr. W. J. Lickley, Clerk, Princes-row, S.W.

SEPTEMBER 7.—**York.**—MATERIALS.—For the supply of stoneware pipes, stone flags, kerb and edging, refined tar, building lime, slag (broken and unbroken), whinstone chippings, to the T.C. Mr. F. W. Spurr, City Engineer, Guildhall, York.

SEPTEMBER 8.—**Holborn.**—MATERIALS.—For the supply of ironmongery, gas and electrical fittings, &c., to the Board of Guardians. Mr. J. Cross, Clerk, 53, Clerkenwell-road, E.C.

SEPTEMBER 8.—**Tadcaster.**—SAND.—Supply of sand, suitable for slippery roads, for six months, for the R.D.C. Geo. A. Bromet, Clerk., Tadcaster.

SEPTEMBER 10.—**London.**—TELEGRAPH POLES.—Supply of Swedish, Norwegian, Finnish, or Baltic red fir and home-grown Scots fir telegraph poles, to be felled during the winter of 1926-7, and delivered during the following summer. The Controller, Post Office Stores Department, 17-19, Bedford-street, W.C.2

SEPTEMBER 13.—**Bolton-upon-Dearne.**—MATERIALS.—Supply of road and sanitary materials for six months to the U.D.C. Mr. W. H. Adams, Surveyor, Bolton-upon-Dearne.

SEPTEMBER 14.—**Darlington.**—MATERIALS.—Supply of road, sanitary, and other materials to the T.C., for six months. Borough Engineer, Town Hall, Darlington.

SEPTEMBER 16.—**Dublin.**—OILS.—Supply to the Great Southern Railways, Ireland, of cylinder oil, mineral lubricating oil (for blending purposes), and engine motion oil. Stores Superintendent, Inchicore, Dublin.

SEPTEMBER 23.—**South Africa.**—LEAD PASTE.—Supply of white lead oil paste to the South African Railways and Harbours Administration. Department of Overseas Trade, 35, Old Queen Street, S.W. Reference BX, 2811.

ENGINEERING, IRON AND STEEL.

AUGUST 30.—**Hackney.**—LIFTS.—Installation of electric goods and service lifts at Hackney Institute, for the L.C.C. Chief engineer, Old County Hall, S.W. Deposit £1.

AUGUST 30.—**Manchester.**—BRIDGE.—For the widening, &c., of Oxford-road Bridge, over the River Medlock, for the T.C. City Engineer's Office, Town Hall, Manchester. Deposit £3 3s.

AUGUST 30.—**Saxmundham.**—BRIDGE.—For the building of a ferro-concrete skew bridge of 32 ft. clear span on ferro-concrete piles, and the demolition of a brick arch bridge at Rendham, three miles west of Saxmundham, on the Saxmundham-Framlingham-road, for the East Suffolk C.C. W. Jervis, county surveyor, County Hall, Ipswich.

AUGUST 31.—**Barnoldswick.**—RESERVOIR.—Construction of an impounding reservoir with a final capacity of 100 million gallons at Elslack Moor, near Skipton, Yorks, for the U.D.C. E. J. Silcock, Consulting Engineer, 25, Victoria-street, Westminster. Deposit £10.

AUGUST 31.—**India.**—GIRDER SPANS.—For the supply of seven 131 ft. clear through girder spans (total approximate weight, 960 tons), for the Madras & Southern Mahratta Railway Co. Offices, 25, Buckingham Palace-road, S.W. Charge £1 1s.

SEPTEMBER 1.—**Harrow.**—RUNWAYS, &c.—Supply and erection of runways, hoisting and travelling gear at H.M. Stationery Office, Harrow, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

SEPTEMBER 1.—**Retford.**—BOILER, &c.—For supply of a Lancashire boiler and feed pump at Rampton State institution, near Retford, Notts, for H.M. Commissioners of Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

SEPTEMBER 1.—**Southampton.**—BOILER.—Installing a vertical smoke tube boiler at the slipper baths at Shirley, for the T.C. Borough Engineer, 33, French-street, Southampton. Deposit 10s. 6d.

SEPTEMBER 3.—**Retford.**—FUEL ECONOMISER.—For the supply and erection of a fuel economiser, &c., at Rampton State institution, near Retford, Notts, for H.M. Commissioners fo Works. Contracts Branch, H.M. Office of Works, King Charles-street, S.W.1. Deposit £1 1s.

SEPTEMBER 4.—Manchester.—WEIGHBRIDGE.—Supply and fixing of weighbridge for motor wagons. Paving Department, Town Hall, Manchester.

SEPTEMBER 6.—Burma.—BRIDGEWORK.—For the supply of bridgework (spans 10 of 100 ft. and 18 of 40 ft.), for the Burma Railways Co. Mr. F. C. Franks, secretary, 199, Gresham House, Old Broad-street, E.C. Charge £1.

SEPTEMBER 7.—India.—SPRINGS, &c.—For the supply of (*a*) 6,265 helical and volute springs, and (*b*) solid-drawn steel boiler tubes. Madras & Southern Mahratta Railway Co., Offices, 25, Buckingham Palace-road, S.W. Charge £1 1s. each.

SEPTEMBER 13.—China.—WELL MACHINERY.—Supply to the British Municipal Council, Tientsin, China, of artesian well machinery, comprising air compressors, main pumps, and meter, with motors and piping. Messrs. J. & A. Leslie & Reid, 72A, George-street, Edinburgh.

SEPTEMBER 13.—Frinton-on-Sea.—GROYNES.—Construction of sixteen groynes (concrete piles and timber planking) on the foreshore, for the U.D.C. Surveyor, Council House, Frinton-on-Sea.

SEPTEMBER 13.—St. Marylebone.—RUNWAY.—Supply and fixing of an electric overhead runway for removing house refuse from storage pit to screening plant, together with steel-frame building. Borough Engineer, Town Hall, Marylebone-road, N.W.1.

SEPTEMBER 15.—Siam.—BRIDGES.—Superstructures of steel railway bridges, for the Administration of the Royal State Railways of Siam, Bangkok. C. P. Sandberg, 40, Grosvenor-gardens, London, S.W.1. Charge £1 10s.

DECEMBER 1.—Denmark.—BRIDGE.—Construction of the superstructure, substructure, as well as approach spans, with shore piers, for a double-track railway bridge across Lillebelt, for the Danish State Railways. Danish Legation, London. Deposit, Danish Kroner 500.

ROAD, SEWERAGE, AND WATER WORKS.

AUGUST 30.—Brentwood.—SEWERS, &c.—Construction of about 900 yds. of 6 in. surface water drain-320 yds. of 6 in. and 9 in. soil sewer, 320 yds. of carriage-way, 640 yds. of kerbing and footpath, for the U.D.C. A. J. Meeson, Surveyor, Town Hall, Brentwood. Deposit £1 1s.

AUGUST 30.—Forehoe.—SANITARY.—For sanitary work at the Institution, for the B.G. Mr. L. Standley, Clerk, Offices, Wymondham.

AUGUST 30.—Greystones.—WATER MAIN.—Extension of water main at Church-road, Greystones, for the Wicklow County Board of Public Health. R. M. Butler, engineer, 23, Kildare-street, Dublin.

AUGUST 30.—Guildford.—ROADS.—For the construction of short length of 9 in. stoneware soil sewer at Woodlands-road, for the T.C. Mr. J. W. Hipwood, Borough Surveyor, Tuns Gate, Guildford.

AUGUST 30.—Hale.—SEWERS.—For the laying of about 160 lineal yards 6 in. sewers, together with manholes and gullies, for the U.D.C. Mr. T. Blagburn, Surveyor, Council Offices, Ashley-road, Hale. Deposit £1 1s.

AUGUST 30.—Harrogate.—SEWER.—Construction of sewer in Hookstone-road, for the T.C. C. E. Rivers, Borough Engineer.

AUGUST 30.—Horsforth.—ROADS.—Carrying out of Troy improvement, for the U.D.C. J. E. Aldersley, surveyor, Council offices, Horsforth.

AUGUST 30.—Llandudno.—ROAD.—Construction of a new road through the Llandudno Golf Links at Maesdu. W. T. Ward and F. A. Delamotte, joint engineers for the scheme, Town Hall, Llandudno.

AUGUST 30.—Reading.—CULVERT.—Construction of a concrete tube culvert with manholes, in the Coley District, for the T.C. Borough Surveyor, Town Hall, Reading. Deposit £2 2s.

AUGUST 30.—Widnes.—ROADS.—Road construction and drainage works on the Kingsway site, for the T.C. Architect and Housing Manager, Town Hall, Widnes. Deposit, £2 2s.

AUGUST 30.—Willesden.—ROADS.—Making-up of Kendal-road, for the U.D.C. F. Wilkinson, Engineer, Town Hall, Dyne-road, Kilburn, N.W. 6.

AUGUST 31.—Barnoldswick.—RESERVOIR.—For first instalment of works necessary for the construction of an impounding reservoir, with a final capacity of 100 million gallons, at Elslack Moor, near Skipton, for the U.D.C. Mr. E. J. Silcock, 25, Victoria-street, Westminster. Deposit £10.

AUGUST 31.—Conway.—WIDENING.—Reconstruction and improvement of two existing roads, known respectively as Deganwy-road and Tywyn Hill-road, Deganwy, for the Conway T.C. and Llandudno U.D.C. Joint Committee. Borough Engineer, Municipal Offices, Conway.

AUGUST 31.—Skegness.—SEWERAGE.—Construction of sewerage works, comprising 12 in. and 9 in. cast-iron sewers, 9 in. stoneware pipe sewers, manholes, ejectors, air and rising mains, for the U.D.C. R. H. Jenkins, Surveyor, Skegness. Deposit £2 2s.

SEPTEMBER 1.—Chrishall.—ROADS.—Erection of retaining walls adjoining the main road from Audley End to Royston, in the Parish of Chrishall, for the Essex C.C. W. H. Morgan, County Surveyor, Old Court, Chelmsford.

SEPTEMBER 1.—Ebbw Vale.—ROADS.—Construction of footpaths, steps, fencing, and the erection of a foot-bridge over the Great Western Railway at Cwm, for the U.D.C. Mr. P. I. Davies, Council Offices, Ebbw Vale. Deposit £2.

SEPTEMBER 1.—Hove.—TAR PAVING WORKS.—Providing and laying about 39,754 yds. superficial tarred macadam in Kingsway, between Hove-street and Boundary-road, for the Borough Council. W. Jermyn Harrison, Town Clerk, Town Hall, Hove.

SEPTEMBER 1.—Lambeth.—ROADS.—Supplying and laying of granited natural mastic asphalt paving in a portion of Herne-hill, of an approximate area of 5,800 yds. super., for the B.C. Osmond Cattlin, Borough Engineer, Town Hall, Brixton, S.W. 2.

SEPTEMBER 1.—Luton.—SEWER.—Laying of about 1¼ miles of foul-water and storm-water sewers in Trapps-lane, for the T.C. J. W. Tomlinson, Borough Engineer, 18, Upper George-street, Luton.

SEPTEMBER 1.—Upton-on-Severn.—SEWER.—Extension of sewer at Squire's-walk, Kempsey, for the R.D.C. M. D. Price, surveyor, Upton-on-Severn.

SEPTEMBER 2.—Leven.—ROADS.—For (1) Surfacing approximate area of 7,500 sq. yds., and (2) bottoming and surfacing new street at Viewforth, area 500 sq. yds., for the T.C. Burgh Surveyor, Leven.

SEPTEMBER 2.—St. Austell.—WATER MAINS.—For the extension of water mains at Treviscoe and Metedor, for the R.D.C. Mr. J. W. Simcox, surveyor, St. Austell.

SEPTEMBER 4.—Conway.—ROADS AND SEWERS.—Road construction work and works of sewage in connection with the housing scheme on the Morfa, Conway, for the Corporation. F. A. Delamotte, A.M.I.C.E., Borough Engineer, Conway. Deposit £2 2s.

SEPTEMBER 4.—Ilfracombe.—PAVILION AND TENNIS COURTS.—For (*a*) Construction of the pavilion, (*b*) making foundations for eight hard tennis courts, (*c*) laying eight hard courts, (*d*) laying of 18-hole putting green, for the U.D.C. F. B. Goodman, surveyor, Wilder-road, Ilfracombe.

SEPTEMBER 4.—Penrith.—WATER WORKS.—Construction of a filter house, settling tank, sludge lagoon, laying of water mains, and other incidental works, for the U.D.C. Mr. T. H. Longstaff, Water Engineer, Town Hall, Penrith. Deposit £2 2s.

SEPTEMBER 4.—Rochester.—ROADS.—For making-up and lighting Northcote-road, for the T.C. City Surveyor, Guildhall. Rochester, Deposit £1 1s.

SEPTEMBER 4.—Stafford.—ROADS.—For re-surfacing with tarred macadam two miles of Old Chester main road, from Little Aston cross roads to Shire Oak, for the Staffordshire C.C. J. Moncur, County Surveyor, Stafford.

★SEPTEMBER 6.—Bognor.—ROADS.—Making-up of various roads, &c., under the Private Street Works Act, 1892, for the U.D.C. J. Draper, Surveyor, Council Offices, High-street, Bognor

SEPTEMBER 6.—Clutton.—WATERWORKS.—For the construction of tank and laying of pipe, &c., in the parish of East Harptree, for the R.D.C. Mr. W. T. Hawker, Court House, Temple Cloud, near Bristol

SEPTEMBER 6.—Dublin.—ROADS.—For the re-surfacing of the undermentioned roads in bituminous concrete: Navan-road, approximately 6 miles, Cabra to Clonee; Lucan-road, approximately 4 miles, Chapelizod to Convent, Lucan, for the Dublin C.C. County Surveyor, 11, Parnell-square, Dublin. Deposit £2 2s.

SEPTEMBER 6.—Friern Barnet.—ROADS.—For making-up of Athenæum-road, Chandos-avenue, and Oakleigh-gardens, for the U.D.C. Mr. P. F. Kindell, Surveyor, Council Offices, Friern Barnet, N.

SEPTEMBER 6.—Leatherhead.—SEWERAGE WORKS.—Construction of tanks, percolating and contact filters, and other works, at the Outfall, Randalls-road, for the U.D.C. Mr. William Fairley, Parliament Mansions, Victoria-street, Westminster, S.W.1. Deposit £3 3s.

SEPTEMBER 6.—Tottenham.—SEWERAGE.—Road construction work and works of sewerage in connection with their housing scheme No. 3, at the White Hart-lane estate, for the U.D.C. E. C. P. Monson, Finsbury Pavement House, 120, Moorgate, E.C. 2. Deposit £3.

SEPTEMBER 7.—Cardiff.—ROADS.—For (1) private street works and surface water drains in: (*a*) Greenfield-road and Westfield-road, (*b*) Milwards Terrace-lane, in the parish of Whitchurch, (*c*) St. Edeyrns-road, in the parish of Llanedarne; (2) construction of about 60 yds. 9 in. diameter earthenware pipe surface water drain with catchpits at Pentwyn, in the parish of Pentyrch; (3) reconstruction of culvert, Cefn Mably, in the parish of Llanvedw, for the R.D.C. Mr. W. Farrow, surveyor, Park House, 20, Park-place, Cardiff.

SEPTEMBER 7.—Newton Abbot.—WATER MAINS.—Providing and laying 1,500 yds. of 6 in., 1,300 yds. of 4 in., and 400 yds. of 3 in. cast-iron water mains, &c., for the R.D.C. S. C. Chapman, Engineer, 12, Summerland-street, Newton Abbot. Deposit £2 2s.

SEPTEMBER 7.—Normanton.—ROADS.—For the making-up of Dalefield-road, for the U.D.C. Mr. F. W. Copp, Surveyor, Council Offices, Normanton.

SEPTEMBER 7.—Torquay.—SEWERS.—For the construction of 1,500 yds. of stoneware pipe relief sewers, for the T.C. Borough Engineer, Torquay, Deposit £2 2s.

SEPTEMBER 11.—Lytham St. Annes.—ROADS.—Making-up of Caryl-road, Kensington-road, Mayfield-road, Rutland-road, Rowsley-road, and St. Leonard-road (footpaths only), for the T.C. Borough Surveyor, Town Hall, St. Annes.

SEPTEMBER 13.—Skegness.—WATERWORKS.—Construction of new well and heading at Welton, for the U.D.C. R. W. Jenkins, Council Offices, Skegness. Deposit £5.

SEPTEMBER 14.—Tonypandy.—ROADS.—For the formation of footpaths, construction of retaining walls, and completion of bowling green, for the Cambrian Welfare Association. Messrs. R. S. Griffiths & Partners, architects, Tonypandy.

Auction Sales, Tenders, etc.

★AUGUST 31.—Hersham.—Goodman & Mann will sell, by direction of Messrs. B. Ingram & Co., upon retiring from business, on the premises, Ingram's-yard, Hersham, near Walton-on-Thames, builders' plant and materials. On the first day will also be offered, with vacant possession (unless previously sold), the extensive freehold business premises, also garden and orchard about 1¼ acres. Auctioneers, 68, Bridge-road, East Molesey, Hampton Court Station, and Portsmouth-road, Esher.

AUGUST 31.—Willesden Junction.—Veryard & Yates will sell, without reserve, owing to completion of Government contract, at Atlas Wharf, Victoria-road, Willesden Junction, contractor's plant and materials, including portable concrete-mixers. Auctioneers, 365, Norwood-road, S.E.27.

SEPTEMBER 3.—London.—Fuller, Horsey, Sons & Cassell will sell by order of Perry & Co., Ltd., in lots, at the Merchants' Hall, Baltic Exchange, St. Mary Axe, E.C., clearance sale of the remaining plant and stock owing to the expiration of lease. Auctioneers, 11, Billiter-square, E.C.3.

SEPTEMBER 9 AND 10.—Kent.—H. & R. L. Cobb amalgamated with Daniel Smith, Oakley & Garrard, will sell, on the premises, by order of the contractors, Kent, Isle of Grain Aerodrome, building materials and machinery; also generating plants, engines, &c. Auctioneers, 4 and 5, Charles-street, St. James's-square, S.W.1, and Cathedral Chambers, Rochester.

SEPTEMBER 14.—Hammersmith.—By order of the Hammersmith B.C. To be sold by tender as a whole or in two lots, freehold building estate of 3½ acres, known as "Parkside" Ravenscourt Park, and No. 17, Ravenscourt Park, Hammersmith, extending back to the rear of the gardens of residences in Goldhawk-road, and having upon it two detached residences, cottage, and outbuilding. Vacant possession on completion. Town Clerk, Town Hall, Hammersmith, W.6.

★SEPTEMBER 14, 15 AND 16.—Stratford, E.15.—J. Hibbard & Sons will sell, without reserve, by order of G. C. Hewett & Co., on the premises, 110–140, High-street, large stock of dry timber, also machinery. Auctioneers, 15, Newington Green, Islington, N.16.

SEPTEMBER 16.—New Ferry.—Paterson & Thomas will sell at the Law Association Rooms, 14, Cook-street, Liverpool (subject to conditions of sale and to not having been previously disposed of by private treaty), 20,795 sq. yds. of land in Stanley-road, New Ferry, together with the family residence erected on part thereof, known as 31, Stanley-road. Auctioneers, 16, Cook-street, Liverpool.

SEPTEMBER 17.—Littlestone-on-Sea.—Knight, Frank & Rutley will offer for sale, in numerous lots, in the Hall, Littlestone-on-Sea (kindly lent by Sir Robert Perks), freehold building plots, 30 private residences and cottages, and the Grand Hotel, on the Littlestone-on-Sea Estate; also adjoining accommodation holdings, arable and grazing land, comprising in all an area of about 700 acres. Auctioneers, 20, Hanover-square, W.1; and 41, Bank-street, Ashford, Kent.

SEPTEMBER 21.—Battersea.—J. T. Skelding & Co. will sell on the premises, Candahar Works, Candahar-road, Battersea, S.W., by order of Messrs. John Garlick (1910), Ltd., owing to part of the premises being let, antique and other surplus interior and exterior fitments and fittings and building materials. Auctioneers, 48, Gresham-street, Guildhall, E.C.2.

SEPTEMBER 22.—London.—Knight, Frank & Rutley will sell, in the Hanover-square Estate Sale Room (unless previously sold privately), Barnet, freehold residential and building estate situated on the Great North-road, known as Greenhill Park, comprising desirable residence, also three well-situated private residences—"Park Lodge," Station-road, "Woodlands," Gloucester-road West, "Gothic Cottage"—valuable building land extending to about 41½ acres. With the exception of "Gothic Cottage," vacant possession will be given on completion of the purchase. Auctioneers, 20, Hanover square, W.1.

★SEPTEMBER 25.—Tunbridge Wells.—Hampton & Sons will sell, at the Swan Hotel, Tunbridge Wells, portions of the Ely Place Estate, Frant, with road frontages of nearly 9,000 ft. Auctioneers, 20, St. James's-square, S.W.1.

Competitions.

(*See Competition News page* 324.)

Public Appointments.

★SEPTEMBER 8.—Northallerton.—Temporary Architectural Assistant required in the Architect's Department, by the North Riding County Council. Herbert G. Thornley, Clerk to the Council, County Hall, Northallerton.

★SEPTEMBER 13.—London.—ARCHITECT AND SURVEYOR.—One architect and one quantity surveyor required by the Under Secretary for Mines, Establishment Branch, Mines Department, Dean Stanley-street, London, S.W.1

★NO DATE.—Nigeria.—SAWMILL FOREMAN.—Required by the Government of Nigeria for the Public Works Department, for two tours of from 12 to 18 months each, with possible extension. Apply at once by letter, Crown Agents for the Colonies, 4, Millbank, London, S.W.1, quoting M/14777.

Messrs. W. N. Froy & Sons, Ltd., of Hammersmith, W. 6, who have been appointed sole distributors for the plumbers' products of the Standard Sanitary Manufacturing Co., of America, announce that, with a view to immediate delivery, they are holding a considerable stock of baths of good style. The baths are of the one-piece type, well enamelled, the fittings being of heavy nickel with a new style of china handle, an innovation in this country. Illustrations of this make of bath, together with a great variety of other plumbing fixtures, are contained in Messrs. W. N. Froy & Sons', Ltd., latest nett trade illustrated pocket price list, which is sent upon application.

PROPOSED NEW BUILDINGS & OTHER WORKS*

In these lists care is taken to ensure the accuracy of the information given, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced. Abbreviations: T.C. for Town Council; U.D.C. for Urban District Council; R.D.C. for Rural District Council; E.C. for Education Committee; B.G. for Board of Guardians; B.C. for Borough Council; P.C. for Parish Council; M.H. for Ministry of Health; M.T. for Ministry of Transport; C.B. for County Borough; B.E. for Board of Education; M.A.B. for Metropolitan Asylums Board; and M.W.B. for Metropolitan Water Board.

ALRESFORD.—Approved by R.D.C.: Three houses at Ropley, for C. Newton; police house at Bramdean, for C.C.

BELFAST.—Plans passed: Villa on Newtownards-road, Upper, for Dr. J. Campbell Young (architect, Mr. R. Lynn); bungalow, off Holywood-road, for Mr. R. W. Hines; alterations to premises in College-square, E., and Wellington-place, for Mr. T. R. Burns (architect, Mr. W. H. Silk); two lock-up shops, Lisburn-road, for J. Houston (architect, Mr. H. Gault); four semi-detached villas, Knockville Park, for T. Simpson; villa, Knockville Park, for T. J. Tuke (architect, Mr. W. R. Rodgers); eight semi-detached villas, Gibson Park-gardens, McMullan Bros. (architect, Mr. E. L. Ross); three houses, Hillview-avenue, for R. J. Bell; recreation hall, Oakfield-avenue, for the 10th Troop of the Belfast Boy Scouts (architects, Messrs. Ferguson & McIlveen); villa, off Balmoral-avenue, for H. Gault; two semi-detached villas, Highpark-avenue, for W. Houston; villa, Balmoral-avenue, for A. McDowell (architect, Mr. T. Houston); shop and house, Bridge End, for J. Dinsmore & Sons (architect, Mr. R. Lynn); shop and house, Donegal-road, for W. Bridgett (architect, Mr. R. Lynn).

BILLINGE.—The U.D.C. has approved plans submitted for the erection of a proposed new Labour Club in Beacon's-lane.

BLACKPOOL.—The Highways Committee has decided to proceed with the work of constructing the road from Warbrick Hill-road to the Knowle. This will be a continuation of Devonshire-road, and when the whole scheme is completed there will be a thoroughfare to Red Bank-road, Bispham, which will open a new way out of Blackpool.—A new wing is to be erected at the Moss School at Marton, consisting of an infants' department on the ground floor with an institute above.

BLORE HEATH.—Plans of six cottages at Burntwoods Sanatorium, have been passed by the R.D.C.

BURNLEY.—A sub-committee has reported in favour of the Ivy Bank site for the erection of two new secondary schools.

CARLETON.—Through the generosity of Mr. W. Pye, of Carleton, a piece of land has been given to the parish as a site for the erection of a new church at Carleton.

CHICHESTER.—The County Architect is preparing plans, specifications, and details of cost, as required by the B.E., for a secondary school for boys.

DROITWICH.—The T.C. has received a report from Messrs. Willcox & Raikes, who had been appointed to investigate the condition of the present sewerage system of the borough, with special regard to the position as to the frequent flooding of High-street. The report referred in detail to the present defective state of the sewers of the borough and the sewage disposal works, and recommended the following works in order to place the sewerage of the town in a satisfactory state:—New sewage disposal works and pumping plant, at an estimated cost of £19,000; a new sewer (to replace the High-street sewer), extending from Hanbury-street to Post Office-lane and along part of Friar-street, £4,500; the reconstruction of the High-street drains and the provision of electric pumping plant, £3,300; new sewers and pumping plant at Falsam Pits, £2,200; and new sewers for dealing with the Ombersley-street area, £4,500; total estimated expenditure, £34,000. The report was referred to the Sewerage Committee.

FOLESHILL.—Plans passed by R.D.C.: Bungalow, Binley Common, R. V. Over; two cottages, Coventry-road, Exhall, W. Johnson; house, Hob-lane, Bedworth, J. Orton; bungalow, Big Rough, Binley, Mrs. C. M. Murdin.

GLASSLOUGHTON.—The P.C. has approved of plans for the erection of a caretaker's house and for school extensions to the Council school.

GRAVESEND.—Plans passed by T.C.: T. Bennett, for J. R. Pettman, 13 houses, Wrotham-avenue; R. Hopkins & Sons, five houses, Devonshire-road; W. J. Holland, two houses, Singlewell-road; Hooker & Co., two houses, Kitchener-avenue; A. Ashenden & Sons, shop, Wrotham-road.

HARROGATE.—Plans have been prepared by Kitson, Parish & Ledgard, architects, of Leeds, for extensions to the Westminster Banking Co.'s premises. Tenders are to be invited.

HELSTON.—The R.D.C. has under consideration the erection of the following cottages: Porthleven, 40; Cadgwith, eight; Mullion, eight; Garras (Mawgan), six; Coverack, ten; Porthallow, four; and Lizard, six.

HUNSTANTON.—A Ministry of Health inquiry has been held into the application of the U.D.C. for sanction to borrow £10,000 for the construction of a swimming pool, sanitary conveniences, and other works.

ISHAM.—The Parish Council has approved a site for eight cottages.

KING'S LYNN.—Plans approved: Bungalow, Vancouver-avenue, Miss Hartley; three houses, Sydney-street, Mr. J. C. Horn.

KIRKHAMGATE (WAKEFIELD).—The R.D.C. has decided to erect a new ferro-concrete water-tower, subject to the M.H. sanction.

LANCASHIRE.—The Government have now consented to the scheme for the construction of the new road from Liverpool to East Lancashire going forward. The total cost is estimated at approximately £3,000,000, towards which the Treasury, through the Ministry of Transport, will give 75 per cent. or £2,250,000. The balance will be provided by contributions from the Liverpool Corporation, the Lancashire County Council and other local authorities on the route of the new road. In addition the Mersey Docks and Harbour Board are giving £100,000. The total length of the road will be 26¼ miles, involving the construction of about twenty new bridges.

LANCHESTER.—The R.D.C. has secured permission from the M.H. to borrow £19,408 for the erection of 50 houses at Craghead, and £4,152 for 12 houses at Ebchester.

LEIGHTON BUZZARD.—Plans for alteration to the "Bridge Hotel" have been passed by the justices.

LONGRIDGE.—Plans have been approved for the erection of 14 subsidy houses for W. Hoghton.

MAIDSTONE.—Plans passed: Two houses, Sutton-road, for A. King and Mrs. Monger; bungalow, Curzon-road, Martin & Newman; 12 houses, London-road, for Cox Bros.

MALTON.—Passed by R.D.C.: Bungalow, Steeple, for J. F. Calderbank; house, Great Totham, J. A. Ridgewell.

MANCHESTER.—Plans have been approved by the County Council: Co-op. Printing Society, additions to printing works, Naples-street and Ludgate-street; (Mr. A. H. Walsingham, architect); Winter Bros., shop and store, Gill-street, Blackley (T. A. Fitton & Son, architects, 19A, Corporation-street); Moss Side Garage and Mart, Ltd., lock-up garages, Park-street and Denmark-road Chorlton-upon-Medlock (Mr. A. McDonald, architect), 71, Meadow-street, Moss Side, and also garage and showroom, Denmark-road and Halley-street, Chorlton-upon-Medlock; Beech Hill Social Club, addition to Social Club, Hampshire-street, Cheetham (Messrs. Drury & Gomersall, Imperial-buildings, Oxford-road, architects); Royal Liver Friendly Society, alterations and additions to 447, Oldham-road, Newton Heath (Messrs. Whitelegg & Bowler, 196, Deansgate, architects).

MERIONETH.—A special meeting of the Merioneth C.C. has been held to consider the reconstruction of the famous Talyllyn Pass road between Dolgelley and Corris which was seriously damaged by a recent landslide. The chairman reported that the Government engineers had inspected the damaged roads and a deputation from the County Council had waited on Sir Henry Maybury in London to point out the seriousness of the position. A sub-committee reported that the work would cost £50,000. The Council decided to proceed with the work if the Ministry of Transport pays 75 per cent. of the cost.

MERTHYR TYDFIL.—House, Glebeland-street, J. T. Rees; dairy, Springfield House, M. Jones.

MIDDLESBROUGH.—It is stated that a scheme is approaching fruition whereby the area of the London and North Eastern Docks at Middlesbrough will be doubled, and accommodation provided for vessels visiting the Tees which will meet all probable requirements for the next fifty years.

MIDGLEY.—Two houses, Leeds-road, Outwood, for T. Armitage; four houses, Third-avenue, Newton Hill, for Kilkenny Bros.

NEWBURN.—Eight houses, Hexham-road, for J. & G. M. Hunter.

NEWTON ABBOT.—The Ministry of Health has consented to the U.D.C. erecting a further 50 houses instead of the 124 asked for.

NORTHALLERTON.—The U.D.C. is seeking permission from the M.H. to erect another 20 houses.

OLDHAM.—The Governors of the Oldham Royal Hospital have taken steps to acquire from the Executors of the late Mr. F. Buckley the estate known as "The Nook," at Greenfield, for a convalescent home.

PAIGNTON.—Application is to be made to the M.H. for sanction to borrow £24,930 for the erection of an additional 50 houses.

PENKRIDGE.—It is proposed by the Peace Memorial Hall Committee to accept the estimate of Mr. H. Spencer, of Cannock, for the erection of the hall.

PORTSLADE.—The U.D.C. has decided that, subject to all outstanding matters being dealt with to the satisfaction of the clerk and the surveyor, the scheme for the erection of 32 houses on the Shelldale-road site, be proceeded with at once, and that application be made to the Public Works Load Board for the necessary loan.

PRESCOT.—Negotiations are proceeding for the U.D.C. to acquire land north of Quall Home Farm and Hackensall-road, Knott End, for the purpose of providing a site for the erection of municipal houses.

PRESTON.—Mr. G. H. Thistleton-Dyer, M.Inst.C.E., an inspector of the Ministry of Health, has held an inquiry into the application of the T.C. to borrow £8,500 for sewerage purposes in the Ribbleton district.

REIGATE.—It was decided at the last meeting of the U.D.C. to forward a scheme for augmenting the town's water supply, at a cost of £19,000, to the Ministry of Health for approval.

REPTON.—Plans for alterations to the "Hollybush Inn," Linton, owned by Salt & Co., have been sanctioned by the justices.

SCARBOROUGH.—Plans passed: J. Petch & Son, for T. Jaram, two houses, Whin Bank.

SNAPETHORPE.—A site for a new church and parochial buildings on the Snapethorpe estate has been presented to the Bishop of Wakefield. It is hoped to have the building works well in hand this year.

SOUTHEND-ON-SEA.—Plans passed: Two houses, Olive-avenue, Walker Bros.; conversion of two houses into shops, Southchurch-avenue, C. W. Cousins; bungalow, Duke of Manchester-drive, Mrs. R. Boalch; house, Broadclyst-gardens, Southend-on-Sea Estates Co., Ltd.; shops, offices, flats, and garages, Rectory-grove, Leigh, A. Robinson; conversion of house to shop, 23, Pall Mall, G. V. Young; house, Lonsdale-road, Mrs. A. Standen; two houses, Crowborough-road, R. Smith; four bungalows and four houses, Highfield-grove, Everitt & Pratt; two houses, Southbourne-grove, Wheeler & Co.; bungalow, Fernlea-road, Mrs. Farnborough; three houses, Bailey-road, H. A. Twitchett; two bungalows, Pavilion-drive, W. Dawes; four houses, Kensington-road, Thorby Bros.; warehouse and showrooms, rear of 1253, London-road, Prittlewell Sand Pits Co., Ltd.; two houses, Lonsdale-road, P. Stanton; two houses, The Crossways, A. J. Cross; two houses, Fleetwood-avenue, J. T. Parrett; house, Westleigh-avenue, J. W. Holland; house, Fairfax-drive, E. H. Smith; three houses, Tunbridge-avenue, H. J. Huckle, Ltd.; 27 houses, Lonsdale-road and North-avenue, W. T. Cusdin; house, Carlton-avenue, E. Croft; two houses, Tyrone-road, W. L. Allan; bungalow, Hambro'-gardens, Mrs. R. A. M. Leggett; 11 houses, Broadclyst-gardens, Southend-on-Sea Estates Co., Ltd.; two houses, Mount-avenue, F. C. Stark; eight houses, Oakhurst-road, A. Perry; three bungalows, Thorpe Hall Close, F. W. Goldsworthy; factory, Manilla-road, Warrior Confectionery Co., Ltd.; two houses, Darlinghurst-grove, H. Holland; house, Chadwick-road, F. Bethley; house, St. James-close, F. J. Gregory; mission hall, Seaview-road, Pastor Stephen Jeffreys; house, Mount-avenue, S. B. Howes; bungalow, The Grove, Southchurch, W. J. Bacon; bank premises, 470, London-road, Midland Bank, Ltd.; 11 shops and showrooms, Southchurch-road, North & Joseph; five houses, Northview-drive, W. Hurst; four houses, Scarborough-drive, G. Eves.

TANFIELD.—The M.H. has approved of the erection of 66 houses at Crossgate Bank Top by the U.D.C.

THORNTON.—The U.D.C. has approved the erection of 23 new houses.

THRYBERGH.—Intimation has been received that the Board of Education has given its sanction to the erecting of a new Roman Catholic school, to accommodate 250 children, at Thrybergh.

TITCHFIELD.—The R.D.C. propose erecting 24 houses on a new site in Bellfield.

WALLSEND.—With a view to providing additional school accommodation it has been decided by Wallsend Education Committee to communicate with owners of land for suitable sites. In the suggested programme to be submitted to the Board of Education is the provision of a school to supersede the Stephenson School to accommodate 500 scholars, the provision of a central school for Willington Quay for about 350 scholars, with a manual instruction centre attached, and the erection of a central school at Wallsend for about 400 children with a manual instruction centre attached. It is estimated that the elementary school and the central school at Willington Quay will cost £38,000, and the central school at Wallsend will cost £17,000, the figures being based on an estimate of £40 per school place.

WELWYN.—At a meeting of Welwyn R.D.C., a recommendation of Welwyn Garden City Housing Committee that the Council should approve of Welwyn Public Utility Society building a hundred houses at Welwyn Garden City, the Council to make the necessary loan and grant, was deferred to allow an interview with the Ministry of Health.

WHEELOCK.—The District Nursing Association has decided to erect a house for the nurse, with accommodation for a surgery, on a site adjacent to the new Council houses.

WHICKHAM.—The U.D.C. has obtained sanction from the M.H. to proceed with the compulsory purchase of four acres of land at Swalwell for housing purposes. An additional 50 houses are to be built.

FIRES.

ANNAN.—The mansion house of Mount Annan, the residence of Mrs. E. J. Brook, has been destroyed by fire.

BURTON-ON-TRENT.—Damage estimated at £80,000 was caused by a fire at Eatough's boot and shoe factory on Friday.

* See also our List of Contracts, Competitions, etc.

ESTIMATING ON RIGHT LINES

Everyone whose business it is to quote for building work should master the principles upon which estimating is based. These principles are clearly explained and illustrated in

'HOW TO ESTIMATE'

by J. T. REA,

a unique and invaluable work which is not excelled in thoroughness or in scope by any similar book known.

Fourth edition (now ready). 540 pages. Price 15s. net (by post 15s. 9d.). Containing thousands of prices and hundreds of examples of analysis, showing how a builder can make up rates for himself. In view of the difficulty of fixing standard prices under present conditions, the author has included an important series of Adaptation Tables and Percentages corrected to February, 1926), *which show how rates may be adjusted to meet variations at any time.*

Before purchasing any other book on this vitally important subject, you are invited to inspect this—the standard work which is in use by over 30,000 builders.

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B. T. BATSFORD, LTD.

Publishers, 94, High Holborn London, W.C.1

PRICES CURRENT OF MATERIALS

[Owing to the exceptional circumstances which prevail at the present time, prices of materials should be confirmed by inquiry.—Ed.]

BRICKS, &c.

Per 1,000 Alongside, in River Thames up to London Bridge.

	£ s. d.
Best Stocks	4 5 6
Second Hard Stocks	3 19 6

Per 1,000. Delivered at London Goods Stations.

	£ s. d.
Flettons, at King's Cross	2 13 3
Do. grooved for Plaster	2 15 3
Do. Bullnose	3 8 3
Best Stourbridge Fire Brick :— 2½ in.	8 11 0
3 in.	10 3 0

GLAZED BRICKS—

	£ s. d.
Best White Ivory, and Salt Glazed Stretchers	21 10 0
Headers	21 0 0
Quoins, Bullnose and 4½in. Flats	28 0 0
D'ble Str'tch'rs	30 0 0
D'ble Headers	27 0 0
One Side and two ends	31 0 0
Two Sides and one End	32 0 0
Splays and Squints	29 10 0
Best Blue Pressed Staffs	9 5 0
Do. Bullnose	9 15 0
Blue Wire Cuts	7 5 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours, Hard Glaze, £5 10s. extra over white.

BREEZE CONCRETE SLABS.

Delivered London.

	s. d.		s. d.
2 in. per yd. super	1 11	3 in. per yd. super	2 9
2½ in. " "	2 4	4 in. " "	3 6

	s. d.		
Thames Ballast	10 6	per yd.	delivered 2 miles radius Paddington.
Pit Sand	13 9	" "	
Thames Sand	14 6	" "	
Best Washed Sand	14 6	" "	
½ in. Shingle for Ferro-Concrete	12 9	" "	
¾ in. "	14 0	" "	
¾ in. Broken Brick "	11 6	" "	
Pan Breeze	7 6	" "	

Per ton delivered in London area in full van loads.

Best Portland Cement. British Standard Specification. Test £2 18 0 to £3 3 6 51s. alongside at Vauxhall in 80-ton lots.

Ferrocrete per ton extra on above	0 10 0
Super Cement (Waterproof)	4 8 0
Roman Cement	8 15 0
Parian Cement	5 15 0
Keene's Cement, White	5 15 0
" " Pink	5 10 0
Plaster, Coarse, Pink	3 0 0
" " White	3 12 6
" Fine	5 12 0
Sirapite, Coarse	3 9 0
" Finish	3 17 0
Grey Stone Lime	2 16 9
Chalk Lime	2 16 9
Best Ground Blue Lias Lime	2 9 6
Hair per cwt.	2 2 6
Granite Chippings	1 12 0

NOTE.—Sacks are charged 1s. 9d. each and credited 1s. 6d. if returned in good condition within three months carr. pd.

Stourbridge Fireclay in s'cks 35s. 0d. per ton at rly. dp.

STONE.

	s. d.
BATH STONE—delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube	2 9½
Do. do. delivered in railway trucks at Nine Elms, L. & S.W.R., per ft. cube	2 11½
PORTLAND STONE—	
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, L. & S.W.R., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube	4 4
Do. do delivered on road wagons at above stations, per ft. cube	4 5
White basebed, 3d. per ft. cube extra.	
NOTE.—1d. per ft. cube extra for every foot over 20 ft. *average*, and ½d. beyond 30 ft.	
HOPTON-WOOD STONE—	
Delivered at any Goods Station, London.	s. d.
Random blocks from 10 ft. and over P. ft. cb.	17 0
Sawn two sides "	27 0
Sawn three or four sides "	32 0
YORK STONE, BLUE—*Robin Hood Quality.*	
Delivered at any Goods Station, London.	s. d.
6 in. sawn two sides landings to sizes (under 30 ft. super.) Per ft. super	5 6
6 in. rubbed two sides, ditto "	6 0
2 in. sawn two sides slabs (random sizes) "	2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) "	1 6½
1½ in. to 2 in. ditto, ditto "	1 4
HARD YORK—	
Delivered at any Goods Station, London.	
Scappled random blocks Per ft. cube	6 3
6 in. sawn two sides landing to sizes (under 40 ft. super) Per ft. super	5 1½
6 in. rubbed two sides, ditto "	6 1½
4 in. sawn two sides slabs (random sizes) "	2 10
3 in. ditto ditto "	2 1½
2 in. self-faced random flags Per yd. super	0 0

CAST STONE.

Delivered in London Area in full van loads, per ft. cube :—Plain, 8s. 6d.; Moulded, 9s. 6d. Cills, 10s. 0d.

WOOD.

GOOD BUILDING DEAL.

Inches.	per stan.	Inches.	per stan.
4 × 11	£28 0	3 × 6	£21 0
4 × 9	25 0	3 × 11	25 0
4 × 8	24 0	2 × 11	25 0
4 × 7	23 0	3 × 9	24 0
3 × 8	21 0	2½ × 9	23 0
3 × 7	20 0	3 × 4½	22 0
2½ × 7	20 0	3 × 4	22 0

PLANED BOARDS.

1 × 11 £27 0 | 1 × 9 £26 0

PLAIN EDGE FLOORING.

Inches.	per sq.	Inches.	per sq.
¾	20/-	1¼	31/-
¾	22/-	1½	34/-
1	25/-		

TONGUED AND GROOVED FLOORING.

Inches.	per sq.
1	25/-
1¼	31/-
1½	34/-

MATCHING (BEST).

Inches.	per sq.
¾	16/6
¾	19/-
1	24/-

BATTENS.

Inches.	s. d.
¾ × 2	2 6 per 100 ft.

SAWN LATHS.

Per bundle	0 2 4

1" AND UP THICK.

	£ s. d.		£ s. d.
Dry Austrian Wainscoat, per ft. cube	0 16 0	to 0 18 0	
Dry American and /or Japanese Figured Oak, ft. cube	0 15 0	to —	
Dry American and/or Japanese Plain Oak, ft. cube	0 11 0	to 0 13 0	
Dry sq. edged Honduras Mahogany, ft. cube	0 16 0	to 0 18 0	
Dry Log cut Honduras Mahogany, ft. cube	0 13 0	to 1 1 0	
Dry Cuba Mahogany, ft. cube	1 4 0	to 1 10 0	
Dry Teak, ft. cube	0 13 0	to 0 15 0	
Dry American Whitewood, ft. cube	0 11 0	to 0 14 0	
Best Scotch glue, per cwt.	4 10 0	to —	
Liquid Glue, per cwt.	4 7 0	to 5 10 0	

SLATES.

First quality slates from Bangor or Portmadoc carriage paid in full truck loads to London Rate Station. Per 1,000 of 1,200.

	£ s. d.		£ s. d.
24 by 12	37 12 6	18 by 10	21 2 6
22 by 12	34 0 0	18 by 9	18 12 6
22 by 11	31 5 0	16 by 10	17 12 6
20 by 12	29 15 0	16 by 8	13 15 0
20 by 10	25 12 6		

TILES.

Delivered at London rate stations in full truckloads of not less than 4 tons. Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district	5 12 6
Ditto hand-made ditto	5 17 6
Ornamental ditto	6 2 6
Hip and valley tiles (per dozen) Hand-made	0 9 6
Hip and valley tiles (per dozen) Machine-made	0 9 0

METALS.

JOISTS, GIRDERS, &c., TO LONDON STATION, PER TON—

	£ s. d.
R.S. Joists, cut and fitted	12 10 0
Plain Compound Girders	14 10 0
" Stanchions	16 10 0
In Roof Work	19 10 0

MILD STEEL ROUNDS.

To London Station, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
½ in.	12 0 0	⅝ in. to ¾ in.	10 15 0
⅜ in.	11 0 0	1 in. to 2½ in.	10 10 0

WROUGHT-IRON TUBES AND FITTINGS—

(Discount off List for lot of not less than £7 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward if sent from London Stocks.)

	Tubes.	Fittings.	Flanges.
Black Gas	60 %	50 %	60 %
Galvanised Gas	45 %	40 %	50 %
Blue Water	55 %	45 %	55 %
Galvanised Water	38½ %	35 %	45 %
Red Steam	50 %	40 %	50 %
Galvanised Steam	32½ %	30 %	40 %

C.I. HALF-ROUND GUTTERS—London Prices, ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/3½	11½d	3½d.
3½ in.	1/4½	1/1½	3½d.
4 in.	1/6	1/3	3½d.
4½ in.	1/7½	1/4½	4½d.
5 in.	1/10½	1/6½	5½d.

O.G. GUTTERS.

3 in.	1/3	1/4½	2½d.
3½ in.	1/8	1/4½	3½d.
4 in.	1/9½	1/4½	3½d.
4½ in.	1/11½	1/7½	4½d.
5 in.	2/4½	1/10½	5½d.

RAIN-WATER PIPES, &c.

Per yd. in 6 fts.	Pipe.	Bends, stock angles.	Branches, stock angles.
2 in. plain	1/10½	1/3	1/9½
2½ in. "	2/0½	1/4½	2/1½
3 in. "	2/6	1/9	2/7½
3½ in. "	2/11½	2/0½	3/0½
4 in. "	3/5	2/6½	3/8½

L.C.C. COATED SOIL PIPES—London Prices, ex Works.

	Pipe.	Bends, stock angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
2 in. per yd. in 6 fts. plain	2 11	2 3	2 9
2½ in. "	3 5	2 6	3 5
3 in. "	4 1	2 9	4 0½
3½ in. "	4 5½	3 5	4 8½
4 in. "	4 11½	3 9½	5 5½

L.C.C. COATED DRAIN PIPES—London Prices ex Works.

	Pipe.	Bends, stocks angles.	Branches, stock angles.
	s. d.	s. d.	s. d.
3 in. per yd. in 9 ft. lengths	4 3	5 9	7 8
4 in. " "	6 3	6 11	9 6
5 in. " "	7 10	12 0	16 3
6 in. " "	9 6	15 0	20 —

Gasken for jointing, 38/6 per cwt.

IRON—	Per ton in London. £ s. d.		£ s. d.
Common Bars	13 0 0	to	14 10 0
Staffordshire Crown Bars—good merchant quality	14 5 0	"	15 5 0
Staffordshire "Marked Bars"	16 5 0	"	17 5 0
Mild Steel Bars	10 0 0	"	11 0 0
Steel Bars, Ferro-Concrete quality, basis price	10 0 0	"	11 0 0
Hoop Iron, basis price	12 0 0	"	13 0 0
" Galvanised	27 0 0	"	28 0 0
Soft Steel Sheets, Black— Ordinary sizes to 20 g.	13 5 0	"	14 5 0
" " " 24 g.	14 5 0	"	15 5 0
" " " 26 g.	16 5 0	"	17 5 0
Sheets Flat Best Soft Steel, O.R. & O.A. quality— Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.	15 10 0	"	16 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	16 10 0	"	17 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	18 10 0	"	20 10 0
No. 1 quality £4 per ton extra.			
Flat and Galvanised Corrugated Sheets— Ordinary sizes, 6 ft. to 9 ft. to 20 g.	18 10 0	"	19 10 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	19 0 0	"	20 0 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	22 0 0	"	23 0 0
Sheets Galvanised Flat, Best quality— Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	22 0 0	"	23 0 0
Best Soft Steel Sheets, 22 g. and 24 g.	24 0 0	"	26 0 0
Best Soft Steel Sheets, 26 g.	25 10 0	"	26 10 0
Cut Nails, 3 in. to 6 in.	19 0 0	"	20 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats, and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

LEAD, &c.

(Delivered in London.)

	£ s. d.
LEAD—Sheet, English, 4 lb. and up	45 0 0
Pipe in coils	46 10 0
Soil Pipe	48 10 0
Compo Pipe	49 10 0

NOTE—Country delivery, 30s. per ton extra: lots under 3 cwt., 3s. per cwt. extra, and over 3 cwt. and under 5 cwt., 1s. 6d. per cwt. extra. Cut to sizes, 2s. cwt. extra.

	£ s. d.
Old lead, ex London area, at Mills per ton	30 10 0 —
Do., ex country, carriage forward per ton	31 10 0 —

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 0½
Strong sheet	"	1 0
Thin	"	1 1
Copper nails	"	2 3
Copper wire	"	2 4

PLUMBERS' BRASS WORK.

Delivered in London.

NEW RIVER PATTERN SCREW DOWN BIB COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
29/-	45/-	76/-	153/-	246/-	510/- per doz.

NEW RIVER PATTERN SCREW DOWN STOP COCKS AND UNIONS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
41/6	62*-	92/-	174/-	300/-	588/- per doz.

NEW RIVER PATTERN SCREW DOWN MAIN FERRULES.

½ in.	¾ in.	1 in.
39/6	60/-	116/6 per doz.

CAPS AND SCREWS.

1½ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
7/6	10/-	14/-	23/-	30/-	42/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1½ in.	1½ in.	2 in.
7/6	11/-	17/-	29/-	36/-	63/- per doz.

BRASS SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.
10/-	12/-	20/-	24/-	31/- per doz.

NEW RIVER PATTERN CROYDON BALL VALVES, S.F.

½ in.	¾ in.	1 in.	1½ in.	1½ in.
35/-	56/-	98/-	162/-	228/- per doz.

DRAWN LEAD P. & S. TRAPS WITH BRASS CLEANING SCREW.

	1½ in.	1½ in.	2 in.	3 in.
8 lbs. P. traps	33/-	41/-	56/-	101/- per doz.
8 lbs. S. traps	35/-	45/-	66/-	126/- "

TIN—English Ingots, 2/10 per lb. SOLDER—Plumbers' 1/2, Tinmen's 1/5. Blowpipe 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil,	in pipes per gallon	0 3 1
" " "	in barrels "	0 3 3
" " "	in drums "	0 3 6
Boiled " "	in barrels "	0 3 3
" " "	in drums "	0 3 6
Turpentine	in barrels "	0 5 7
"	in drums (10 gall.) "	0 5 9
Genuine Ground English White Lead, per ton (In not less than 5 cwt. casks.)		54 15 0
GENUINE WHITE LEAD PAINT— "Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Potacco," "J." Brand and other best brands (in 14 lb. tins) not less than 5 cwt. lots per ton delivered		73 5 0
Red Lead, Dry (packages extra)	per ton	45 10 0
Best Linseed Oil Putty	per cwt.	0 15 6
Filocol	"	0 3 6
Size, XD Quality	"	

Continued on next page

*The information given on this page has been specially compiled for THE BUILDER and is copyright. Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

PRICES CURRENT OF MATERIALS (cont'd.)

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

	Per Ft.		Per Ft.
15 oz. fourths ..	3½d.	32 oz. fourths	7½d.
15 „ thirds	4½d.	32 „ thirds	9½d.
21 „ fourths ..	4½d.	Obscured Sheet. 15 oz.	3½d.
21 „ thirds	5½d.	„ 21 „	5½d.
26 „ fourths ..	5d.	Fluted 15oz. 6½d., 21oz.	9½d.
26 „ thirds	7½d.	Enrolled 15oz. 6½d., 21oz.	7½d.

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE IN CRATES OF STOCK SIZES.

	Per Ft.
⅛ Rolled plate	4½ d.
⅜ Rough rolled	5½ d.
¼ Rough rolled	6
Figured Rolled, Baltic, Oceanic, Arctic, Stippolyte, and small and large Flemish White..	6½d
Ditto, tinted	9d.
Rolled Sheet	6d.
White Rolled Cathedral	5½d.
Tinted do.	7½d

Cast Plate is same price as rough rolled.

VARNISHES, &c.

		Per Gallon £ s. d.
Oak Varnish.....	Outside	0 14 0
Fine ditto.....	ditto	0 16 0
Fine Copal	ditto	0 18 0
Pale Copal	ditto	1 0 0
Pale Copal Carriage	ditto	1 4 0
Best ditto.....	ditto	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	ditto	0 18 0
Fine Copal Cabinet	ditto	1 2 6
Fine Copal Flatting	ditto	1 0 6
Hard Drying Oak	ditto	0 18 0
Fine Hard Drying Oak.....	ditto	0 19 0
Fine Copal Varnish	ditto	1 0 0
Pale ditto	ditto	1 2 0
Best ditto	ditto	1 12 0
Best Japan Gold Size		0 12 6
Best Black Japan		0 10 6
Oak and Mahogany Stain (water).....		0 12 0
Brunswick Black.....		0 7 6
Berlin Black		0 14 6
Knotting (patent)		1 5 0
French and Brush Polish		0 17 0
Liquid Dryers in Terebine		0 9 0
Cuirass Black Enamel		0 7 0

Proposed Engineering Wage Advance.

The claim of the engineering trade unions for an advance of 20s. a week, originally made two years ago, has been abandoned until conditions are more favourable. This decision was arrived at after the representatives of the unions reviewed the industrial position of the engineering trade.

NEW BUILDINGS IN SCOTLAND

Aberdeen.—Intimation has been received from the Scottish Board of Health that approval had been given to the Council's slum-clearing scheme, subject to a few minor alterations. The arrangement involves the clearance of properties in Guestrow and other localities in the neighbourhood of Marischal College, in view of an important improvement scheme.

Bo'ness.—At a Dean of Guild Court plans were passed for the erection of a suite of buildings alongside and on top of the local branch of the British Linen Bank for Bo'ness Co-operative Society. The bank, by arrangement, are erecting for the Society a large shop, with a range of suitable showrooms and workrooms above.

Jedburgh.—As a result of a communication received from the Scottish Board of Health, the Town Council will now be in a position to complete the burgh housing scheme at New Bongate. The plans now approved by the Board are for three-apartment dwellings, and the price for each is £398 18s. Local contractors are the successful offerers.

Edinburgh.—The Dean of Guild Court, at its last sitting, granted warrant for the erection of a new child welfare centre at 60, Pleasance. Among other applications granted were: Thomas S. Henderson, bungalow and garage, and bungalow, at Columba-road, Blackhall; Thomas Crawford Kelly, villa and garage at Whitehouse-road, Barnton; George Paterson, two bungalows at Corstorphine Bank-drive; James Robb, 20 houses at Trinity-grove; John Storrar, six bungalows at Groathill, Craigleith; United Free Church Presbytery of Edinburgh, a hall at the corner of Restalrig-road and Sleigh-drive, Lochend.

Lanarkshire.—The Ministry of Transport has officially intimated its approval of the acceptance of the Motherwell Bridge & Engineering Co.'s offer for the new Clyde bridge. The new bridge across the River Clyde, on the Hamilton-Motherwell-road, is the combined enterprise of the Lanarkshire County Council and the burghs of Hamilton, Motherwell, and Wishaw. The cost of the new bridge is in the neighbourhood of £82,000, and it is expected to be opened for traffic in about two years.

BUILDING TRADE WAGES IN SCOTLAND.*

THE following are the present rates of wages in the building trade in the principal towns of Scotland. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur:—

	Masons.	Bricklayers.	Carpenters, Joiners.	Plasterers.	Slaters.	Plumbers.	Painters.	Labourers—Masons', Bricklayers', Plasterers'.
Aberdeen	1/8	1/8½	1/8	1/8	1/8	1/8	1/7	10½d. to 1/1
Airdrie	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3
Alexandria.....	1/8	1/8	1/8	1/8	1/8	1/8	—	1/2½ to 1/3½
Arbroath	1/7	1/7	1/7	1/7½	1/7	1/7	1/5½	1/1½
Ayr	1/8	1/8	1/8	1/8	1/8	1/8	1/6½	1/3
Bathgate	1/8	1/8	1/8	1/8½	1/8	1/8	1/6½	1/2 to 1/3
Blairgowrie	1/7	1/7	1/7	1/7½	1/5	1/7	1/4	10d. to 1/-
Bo'ness	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Coatbridge.....	1/8	1/8	1/8	1/8	1/8	—	1/6½	1/3 to 1/3½
Dumbarton	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Dumfries	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Dundee	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3
Dunfermline	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Edinburgh	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Falkirk	1/7½	1/7½	1/7	1/8	1/7	1/7	1/6½	1/2½
Fort William.....	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/2
Galashiels	1/7	1/7	1/7	1/7	1/7	1/7	1/7	1/2½
Glasgow	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Greenock	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/0½ to 1/3½
Hamilton	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Hawick	1/7	1/7	1/7	1/7-1/7½	1/7	1/7	1/7	1/2½
Helensburgh	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½
Inverness	1/6	1/6	1/6	1/6	1/6	1/6	1/6	1/- to 1/2
Kilmarnock	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkcaldy	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Kirkwall.....	1/5	1/5	1/4	1/5	1/5	1/4	1/4	1/-
Lanark	1/8	1/8	1/8	1/9	1/8	1/8	1/6	1/0 to 1/3
Leith	1/8	1/8	1/8	1/8	1/8	1/8	1/8	1/3½
Motherwell.....	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3½
Perth	1/8	1/8	1/8	1/9	1/8	1/8	1/6½	1/3
Stirling	1/8	1/8	1/8	1/9	1/8	1/8	1/8	1/3½
Stirlingshire (Eastern District)	1/8-1/10	1/8 1/10	1/8	1/9	1/7	1/8	1/6½	1/3½
Wishaw	1/8	1/8	1/8	1/9	1/8	1/8	1/7	1/3½

* The information given in this table is copyright. The rates of wages in the various towns in England and Wales are given on page 349.

TENDERS.

Communications for insertion under this heading should be addressed to "The Editor," and must reach him not later than Tuesday evening.

* Denotes *accepted*. † Denotes *provisionally accepted*.
‡ Denotes *recommended for acceptance*.
§ Denotes *accepted subject to modification*.

ABERBEEG.—For reconstruction of bridge, road improvements, &c., for the G.W.R. Co.:—
*J. M. Broadfoot, Newport.

ABERDEEN.—For the construction of sewers, for the T.C.:—
*R. M'Kay, Jun.—Sewers in Munrofield area.
*J. Keith—Sewer in Granville-place.

ACCRINGTON.—Additions to the nurses' home at the District Victoria Hospital, abutting on Haywood-street, for the Committee. Mr. Wm. J. Newton, F.R.I.B.A. (chartered architect and civil engineer), Honorary Architect:—
James Hartley, Oldham.
Thal Browne, Ltd., Haslingden.
E. Taylor & Co., Littleborough.
*Mullen & Durkin, Ltd., Burnley.
J. H. Boothman, Brierfield.
A. Higginbotham & Sons, Idle, Bradford.

BEDDAU.—For erection of institute, &c., at Tynant Beddau, near Pontypridd, for Cwm and Llantwit Welfare Scheme Council. Mr. J. H. Davies, architect and surveyor, 67, Taff-street, Pontypridd:—

D. Pritchard, Pontyclun	£8,275	0	0
Industrial Construction Co, Ltd., London	4,797	10	3
E. L. Price, Canton, Cardiff....	4,769	0	0
T. R. Evans, Roath, Cardiff ..	4,769	0	0
W. D. Humphreys, Tylorstown	4,597	0	0
Richard Jones, Caerphilly.....	4,587	0	0
Owen & Davies, Creigiau	4,545	0	0
*Arthur Seaton, Pontypridd	4,499	18	4
D. J. Davies, Llwynypia	4,423	16	9
Architect's estimate	4,500	0	0

* Provisionally accepted.

BIRKENHEAD.—Destructor house and other works at the North-end destructor, Cleveland-street, for the C.B. Mr. Chas. Brownridge, Borough Engineer and Surveyor:—
*Guy & Hunter, Liverpool £5,200

BRADFORD.—Extensions to premises in Upper Piccadilly, for Messrs. John Mollett, Ltd.:—
*Thos. Obank & Son, Ltd.

BURY.—Alterations and construction of new conveniences at the Municipal Offices, Bank-street, for the C.B.:—
*Thompson & Brierley, Ltd., Bury.

BURY ST. EDMUNDS.—For the building work in connection with the installation of electrical plant for the T.C.:—
*H. F. Sewell £696

EASINGTON.—Thornley sewerage scheme, for the R.D.C.:—
*Hy. Bell & Co. (Ryhope), Ltd. £39,700

ELLAND.—Eleven pairs of semi-detached bungalows at South-lane:—
*W. Brennard ..... £475 each

EXMOUTH.—Twenty-four houses, for the U.D.C. Mr. S. Hutton, engineer and surveyor, architect:—

*A. B. Pyne, Exmouth (10 houses)....	£4,550
*F. W. Davey, Exmouth (10 houses)....	4,510
*Ratcliffe & Perryman, Exmouth (four houses).....	1,710

FARNWORTH.—Eighty-eight houses at Harper Green, for U.D.C. Mr. F. Ashton, surveyor:—
*C. W. Norris, Farnworth—28 houses.
*E. & S. Street, Ltd., Kearsley—20 houses.
*J. H. Coope, Ltd., Farnworth—40 houses.

FULWOOD.—Alterations and extensions to the medical officer's house. Mr. F. Howorth, architect, 32, Lune-street, Preston:—
Bricklayer, &c.—
*John Turner, Preston.
Carpenters and Joiners—
*E. Tomlinson & Son, Leyland.
Plumber—
*W. H. Huck, Preston.
Plasterer—
*G. Willian, Preston.
Slater—
*J. Kirkham, Preston.

GREAT SANKEY.—Sub-station in Liverpool-road, for the Warrington C.B. Mr. S. P. Silcock, architect, 6, Egypt-street, Warrington:—
*W. V. Furness, Great Sankey.

HARROGATE.—New banking premises for the Yorkshire Penny Bank, Ltd.:—
*Wm. Nicholson & Son (Leeds), Ltd.

KEYNSHAM.—For the erection of 14 houses at Whitchurch, for the R.D.C.:—
*E. Walters & Son..... £6,999

KEYNSHAM.—For the construction of a road at Whitchurch, for the R.D.C.:—
*Durnford Construction Co., Bristol £589 4 6

(*Continued on p.* 357.)

CURRENT PRICES FOR BUILDING WORK IN LONDON*

EXCAVATOR.

		s.	d.
Digging and throwing or wheeling and filling carts, and carting away to shoot—6 ft. deep	per yard cube	11	0
Add if in clay	" "	1	0
Add for every additional depth of 6 ft.	" "	0	6
Planking and strutting to trenches	per foot super	0	5
Do. to sides of excavation, including shoring	" "	1	0

CONCRETOR.

		s.	d.
Portland cement concrete in foundation 1 to 6	per yard cube	32	0
Add if in underpinning in short lengths	" "	7	0
Add if in floors 6 in. thick	" "	3	3
Add if in beams	" "	3	9
Add if aggregate 1 : 2 : 4	" "	10	0
Add for hoisting not exceeding 10 ft. beyond the first 10 ft.	" "	2	6

BRICKLAYER.

		£	s.	d.
Reduced brickwork in lime mortar and Fletton bricks	per rod	30	0	0
Add if in stocks	"	7	10	0
Add if in Staffordshire blues	"	22	0	0
Add if in Portland cement and sand	"	1	10	0

FACINGS.

		s.	d.
Extra for facing in English or Flemish bond for every 10s. per 1,000 over the price of the common bricks	per ft. super	0	0	1½

POINTING.

		s.	d.
Neat flat struck or weathered joint	" "	0	0	3

ARCHES.

		s.	d.
Extra only to the price of ordinary brickwork :—			
Fair external in half brick rings	" "	0	0	10
Axed in stocks	" "	0	1	9
Rubbed and gauged jointed in putty camber or segmental	" "	0	6	0

SUNDRIES.

		s.	d.
Damp course in double course of slates breaking joint and bedded in Portland cement	" "	0	1	0
Setting ordinary register grates and stoves	each	1	0	0
Setting kitchener, including forming flues, &c., with all necessary fire bricks	"	4	15	0

ASPHALTER.

		s.	d.
Half-inch horizontal damp course	per yard sup.	4	3
Three-quarter-inch vertical damp course	" "	8	6
¾ inch on flats in two thicknesses	" "	6	3
Angel fillet	per foot run	0	3
Skirting and fillet 6 in. high	" "	1	2

MASON.

		s.	d.
York stone templates fixed	per foot cube	13	0
York stone sills fixed	" "	22	0
Bath stone and all labour fixed	" "	10	6
Portland stone fixed	" "	20	0

SLATER.

			s.	d.
Welsh 16 in. × 8 in. 3 in. lap, including nails		per square	72	9
Do. 20 in. × 10 in.	Do. Do.	"	80	9
Do. 24 in. × 12 in.	Do. Do.	"	90	0

CARPENTER AND JOINER.

		s.	d.
Fir framed in plates	per foot cube	5	0
Do. joists	" "	5	6
Do. roofs, floors, and partitions	" "	6	0
Do. trusses	" "	8	6

		¾"	1"	1¼"	2"
Deal rough close boarding	per sq.	35/6	40/-	45/-	72/-

		s.	d.
Flat centering for concrete floor, including struts or hangers	"	50	0
Do. to beams	per ft. sup.	1	0
Centres for arches	"	1	6
Gutter boards and bearers	"	1	0

FLOORING.		¾"	1"	1¼"	1½"
Deal-edges shot	per sq.		44/6	53/-	60/6
Do. tongued and grooved	"		49/-	57/6	65/-
Do. matchings	"	45/-	51/-		
Moulded skirting, including backings and grounds	per ft. sup.	1/6	1/9	2/0	2/6

SASHES AND FRAMES.		s.	d.
One-and-a-half moulded sashes or casements	per foot super.	1	10
Two Do. Do. Do.	" "	2	1
Add for fitting and fixing	" "	0	3
Deal-cased frames with 1 in. inner and outer linings, 1½ in. pulley stiles tongued to linings, hard wood sills with 2 in. moulded sashes in squares, double hung, double hung with pulleys, lines and weights; average size	" "	3	9

DOORS.		1½"	1¾"	2"
Two-panel square framed	per ft. sup.	2/1	2/4	2/6
Four-panel Do.	"	2/5	2/8	2/11
Two-panel moulded both sides	"	2/8	2/11	3/2
Four-panel Do. Do.	"	2/11	3/2	3/5

CARPENTER AND JOINER—continued.

FRAMES.

		s.	d.
Deal wrot moulded and rebated	per foot cube	14	0

		1"	1¼"	1½"
Plain deal jamb linings framed	per ft. sup.	1/7	1/8	1/11
Deal shelves and bearers	"	1/4	1/6	1/9
Add if cross-tongued	"	2d.	2d.	2d.

STAIRCASES.

	1"	1¼"	1½"	2"	2½"
Deal treads and risers in and including rough brackets	2/1	2/4	2/9	—	—
Deal strings wrot on both sides and framed	1/8	2/-	2/2	2/8	—

		s.	d.
Housings for steps and risers	each	0	11
Deal balusters, 1 in. × 1¼ in.	per ft. run	0	9
Mahogany handrail: average 3 in. × 3 in.	" "	6	0
Add if ramped	" "	11	10
Add if wreathed	" "	23	9

FIXING ONLY IRONMONGERY (INCLUDING SCREWS).

6 in. barrel bolts	8½d.	Rim locks	2/-
Sash fasteners	11½d.	Mortice locks	4/6
Casement fasteners	1/5	Patent spring hinges and letting into floor and making good	19/-
Casement stays	1/2		
Cupboard locks	1/5		

FOUNDER AND SMITH.

		s.	d.
Rolled steel joists	per cwt.	16	3
Plain compound girders	"	19	0
Do. stanchions	"	21	9
In roof work	"	27	6

RAIN-WATER GOODS.

		3"	4"	5"	6"
Half-round plain rebated joints	ft. run	1/6	1/9	2/-	2/6
Ogee Do. Do.	"	1/9	2/-	2/6	3/3
Rain-water pipes with ears	"	1/9	2/7	—	—
Extra for shoes and bends	each	4/4	5/11	—	—
Do. stopped ends	"	1/11	2/4½	3/7	4/-
Do. nozzles for inlets	"	2/2	2/7	3/10	4/3

PLUMBER.

		s.	d.
Milled lead and laying in flashings and gutters	per cwt.	59	0
Do. Do. in flats	"	58	0
Extra labour and solder in coated cesspools	each	6	9
Welf joint	per ft. run	0	6
Soldered seam	" "	1	6
Copper nailing	" "	0	6

		½"	¾"	1"	1½"	2"	4"
Drawn lead waste	per ft. run	1/2	1/9	2/-	3/4	4/-	—
Do. service	"	1/8	2/2	2/7	3/10	—	—
Do. soil	"	—	—	—	—	—	6/9
Bends in lead pipe	each	—	—	—	—	2/3	8/2
Soldered stop ends	"	1/2	1/8	2/1	2/10	3/6	—
Red lead joints	"	11d.	1/-	1/3	1/11	2/4	4/10
Wiped soldered joints	"	2/10	3/6	4/-	4/11	6/6	9/9
Lead traps and cleaning screws	"	—	—	—	14/7	19/6	—
Bib cocks and joints	"	6/4	9/7	15/4	41/-	—	—
Stop cocks and joints	"	15/4	17/2	25/8	64/-	—	—

PLASTERER.

		s.	d.
Render, float and set in lime and hair	per yard sup.	2	4
Do. Do. Sirapite	" "	2	7
Do. Do. Keen's	" "	3	7
Add sawn lathing	" "	1	7
Add metal lathing	" "	2	6
(Not including hangers or runners, &c., for suspended ceilings.)			
Portland cement screed	per yard sup.	2	2
Do. plain face	" "	3	3
Mouldings in plaster	per 1 girth	0	1½
One-and-a-half granolithic pavings	per yard sup.	5	9

GLAZIER.

		s.	d.
21 oz. sheet plain	per foot sup.	0	8½
26 oz. Do.	" "	1	0
Obscured sheet	" "	1	1
⅛ in. rolled plate	" "	0	9
¼ in. rough rolled or cast plate	" "	0	10½
¼ in. wired cast plate	" "	1	4

PAINTER.

		s.	d.
Preparing and distempering, 2 coats	per yard sup.	0	9
Knotting and priming	" "	0	7
Plain painting, 1 coat	" "	0	9
Do. 2 coats	" "	1	2
Do. 3 coats	" "	1	9
Do. 4 coats	" "	2	4
Graining	" "	2	3
Varnishing twice	" "	1	9
Sizing	" "	0	3
Flatting	" "	0	7
Enamel	" "	1	1
Wax polishing	per foot sup.	0	6
French polishing	" "	1	2
Preparing for and hanging paper	per piece, 2 -to 4/-		

* These prices apply to *new buildings only*. They cover superintendence by foreman and carry a profit of 10 % on the prime cost without establishment charges. A percentage of 1½ should be added for Employers' Liability and National Health and Unemployment Acts and from 4s. 6d. per £100 for Fire Insurance. The whole of the information given on this page is copyright.

TENDERS.

(*Continued from p.* 355.)

LANARKSHIRE.—New steel bridge over the River Clyde, for the C.C. :—
*Motherwell Bridge and Engineering Co., Ltd. £82,000

LEEDS.—Extensions to the St. George's Tavern, Wortley-lane, for Messrs. John Smith's Tadcaster Brewery Co. :—
*A. Lambert & Son, Ltd.

LEXDEN AND WINSTREE.—For the erection of six houses at Birch, for the R.D.C. :—
*Scrutton & Son £2,160

LLANGOLLEN.—For (*a*) the erection and completion of 34 houses of various types on sites at Trevor, Garth, Brynegwlys and Pentre Dwfr; and (*b*) the construction of roads, footpaths, sewers, &c., for R.D.C. Messrs. Berrington & Son, architects, Prudential Chambers, Lichfield-street, Wolverhampton :—
*Messrs. Powell & Hughes, Acrefair, Wrexham, accepted for Houses and Lay-out of Bryn Oerog and Garth sites.
*S. Mitchell, Cefn, Wrexham, accepted for Houses and Lay-out on Brynegwlys and Pentre Dwfr sites.

LOUTH.—Extensions, &c., to the hospital, for the managers. Mr. Harold Hall, architect, 32, Old Market-place, Grimsby :—
*Mawer Bros., Louth.

MAIDSTONE.—For rebuilding boiler brickwork, for the T.C. :—
*Poulton & Son, Reading £350

MALDON.—For the erection of bungalows, for the R.D.C. :—
*Woodward—10 bungalows at Cold Norton..... £4,374
*Dowsett & Son—6 bungalows at Roundbush 2,594

MELTHAM.—Additions to the Liberal Club. Messrs. Stocks, Sykes & Hickson, architects, 4, St. Peter's-street, Huddersfield :—
Masons—
*J. & J. Mellor, Meltham.
Joiners—
*Garlick Bros., Meltham.
Plumber—
*H. Stead, Meltham.
Plasterers—
*J. Wilkinson & Son, Meltham.
Painter—
*E. Thornton, Meltham.
Electricians—
*Wood & Hirst, Meltham.
Concreters—
*E. H. White & Co., Huddersfield.
Heating—
*C. Watson & Sons, Huddersfield.

MERTHYR TYDFIL.—For recorder house for meters, for the T.C. :—
*D. W. Jones, Treharris £132

MIDDLESBROUGH.—Banking premises for the Yorkshire Penny Bank, Ltd., at Linthorpe-road :—
*Wm. Nicholson & Son (Leeds), Ltd.

MYNYDDISLWYN.—For 30 houses on Bryn site, Pontllanfraith, and construction of roads and sewers, for the U.D.C. Messrs. A. A. Webb & W. A. Griffiths, architects and surveyors, Tredegar Chambers, Blackwood, Mon :—

Lloyd & Davies, Llansamlet..	£17,299	0	0
J. W. Monks, Newport.....	17,286	0	0
W. Miles & Sons, Ebbw Vale..	16,625	0	0
Evan James, Ystrad Mynach	16,588	0	0
Richard Jones, Caerphilly....	16,485	0	0
*J. E. Jones, Blackwood.....	16,392	12	6
G. Wyatt & J. Harris, Blackwood	16,136	5	0
G. Smith, Ynysddu..... (For houses only.)	16,050	0	0

NELSON.—For 100 houses (Hodge Housing Scheme G), for the B.C. Borough Engineer, Town Hall :—
Bricklayer—
*A. Green & Co., Nelson—16 houses.
*J. & J. H. Boothman, Brierfield—14 houses.
*Thos. Dent & Sons, Nelson—70 houses.
Carpenter and Joiner—
*J. Wyld, Holme—8 houses.
*F. Dearden, Nelson—8 houses.
*Russell Bros., Nelson—84 houses.
Plumber—
*J. McCleary, Brierfield—16 houses.
*H. Smith, Nelson—14 houses.
*Arthur Padgett, Nelson—20 houses.
*Wm. Wood, Nelson—20 houses.
*P. J. Quinn, Ltd., Brierfield—30 houses.
Plasterer—
*H. H. Lockwood, Nelson—66 houses.
*P. Eartley & Son, Nelson—20 houses.
*R. Will, Earby—14 houses.
Painter—
*John England, Nelson—100 houses.
Slater—
*Whitaker & Clegg, Burnley—16 houses.
*W. Schofield & Son—14 houses.
*W. Stanworth & Son—70 houses.
Electrician—
*J. Lovell, Nelson—50 houses. (Remainder not yet been let.)

NEWMILNS AND GREENHOLM.—Twenty-four semi-detached cottages, for the T.C. Mr. J. H. Gilmour, Burgh Surveyor :—

Builder—			
*Jas. Melville, Newmilns....	£3,156	0	0
Joiners—			
*Morton & Black, Newmilns	2,505	19	0
Plasterers—			
*Brown & Rankin, Newmilns	617	0	0
Plumbers—			
*Young & Macfarlane, Newmilns	1,250	17	0
Slaters—			
*J. Todd & Co., Newmilns ..	997	15	5
Painter—			
*W. Mathie, Newmilns	212	10	0
Electric wiring—			
*Jas. Laird & Co., Glasgow..	108	0	0

NEWTON HEATH.—For alterations and additions to brewery, Rothwell-street and Oldham-road, Newton Heath, for W. T. Rothwell, Ltd. Messrs. W. Johnson & Sons, architects, 27, Oldham-road, Miles Platting :—
*Tinker & Young, Monsall-street, Manchester.

OLDHAM.—Mortuary at the Union Institution, for the B.G. Messrs. C. T. Taylor, Roberts & Bowman, architects, 10, Clegg-street, Oldham :—
Brickwork—*J. & J. Blune.
Mason—*A. Mackay.
Joiners—*Chas. Schofield & Co.
Slater—*J. Jackson.
Plumber—*E. H. Shorrock
Plasterer—*E. Pearce.
(All of Oldham.)

OLDHAM.—Extensions at the Nurses' Home, for the B.G. Messrs. C. T. Taylor, Roberts & Bowman, architect, 10, Clegg-street, :—
Brickwork—*J. Hartley.
Mason—*Hughes & Wagg.
Joiners—*Squire, Ashton & Son.
Slater—*J. Jackson.
Plumbing—J. Harrison.
Painting—*J. Heywood & Son.
Plastering—*J. Glynn.
(All of Oldham.)

ORRELL.—Six houses, St. James-road, for the U.D.C. :—
*Darbyshire, Jackson & Co., Wigan.... £3,115

PEMBROKE.—Public library at Anglesea-road, Ballsbridge, Co. Dublin, for U.D.C. Messrs. Kaye-Parry, Ross & Hendy, architects, 48, Kildare-street, Dublin :—

J. E. Moore.....	£7,715	15	2
James Beckett	7,550	0	0
J. & F. Pemberton.....	7,524	5	10
W. & A. Roberts.....	7,336	19	0
J. & W. Steward.....	6,895	0	0
McNally & Co., Ltd.....	6,785	13	3
H. & J. Martin	6,785	0	0
Bolton & Son	6,710	0	0
*G. & T. Crampton	6,702	11	0

(All of Dublin.)

PONTEFRACT.—Maternity and Child Welfare Centre, for the T.C. Mr. W. H. Newton, Borough Engineer and Surveyor :—
*Barber & Heseltine, Pontefract .. £611 15 9

THE "HENDERSON" SYSTEM
SLIDING DOOR GEAR
FOR FACTORIES, GARAGES, SCHOOLS, ETC.,

"TANGENT JUNIOR" FOR LIGHT DOORS.
"TANGENT SENIOR" FOR HEAVY DOORS.
WRITE FOR BOUND CATALOGUE B.24 TO:-
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POULTON-LE-FYLDE.—Six houses, in pairs, on the Big Field housing site, Lower-green, for the U.D.C. Mr. E. Prescott, Surveyor, Town Hall, Poulton-le-Fylde, Blackpool :—

W. B. Snape, Blackpool.....	£3,090	0	0
W. Townson & Sons, Blackpool	3,078	0	0
Edward Ellison, Poulton-le-Fylde	3,060	0	0
Saul & Cooper, Lytham.....	3,028	0	0
J. Sutcliffe & Sons, St. Annes-on-Sea	2,980	0	0
J. Cryer & Sons, Fleetwood ..	2,911	0	0
E. Armitage, Poulton-le-Fylde	2,835	0	0
Henry Ratcliffe, Poulton-le-Fylde	2,820	0	0
Alderton Bros., Blackpool....	2,800	0	0
R. Lancaster & Sons, Cleveleys	2,760	0	0
J. Gardner & Sons, Kirkham..	2,700	0	0
Nutter, Seddon & Co., Blackpool	2,676	0	0
Robert Leach, Blackpool.....	2,658	0	0
John Ridyard, Norbreck, Blackpool	2,651	5	0
Sutcliffe & Stansfield, Ansdell, Lytham	2,547	11	3
*Peckover & Sykes, Blackpool..	2,520	0	0

PRESTON.—Erection of a new infants' school in Ellesmere-road, Pemberton, Wigan, to accommodate 160 children. Mr. Wilfrid C. Mangan, architect and surveyor, 18, Guildhall-street, Preston, Lancs :—
*J. Wilson & Co., Wigan £2,650

RICHMOND (YORKS).—For the supply of pipes for water supply, for the T.C. :—
*T. Allan & Sons..... Per ton £9 5

SALFORD.—Extensions to the Holy Name Tower, for the Father Vaughan. Sir G. G. Scott, architect, London, W.C.1 :—
*R. Carlyle & Co., Ltd., Manchester £16,000

SALTASH.—For the erection of 40 houses, for the T.C. :—
*Wakeham Bros..... £19,600

SCARBOROUGH.—For painting schools, for the T.C. :—

*A. T. Kidd—Central Schools, exterior	£98	8
*J. Carr & Sons—Central Infants', interior	146	10
*R. Kelly—Central Juniors' and Girls' interior	269	0
*Wardman & Sons—Central Boys', interior	150	0
*Holtby & Richardson — Friarage Schools, exterior	88	0
*Cheesborough—St. Mary's Schools, exterior	35	0
*A. E. King—St. Peter's School, interior	75	0

SCARBOROUGH.—For reconstruction of Queen's-parade, for the T.C. :—
*Christiani & Nielson.

SCARBOROUGH.—For making-up various roads, for T.C. :—
*Jaram & Sons—Back road between Ashville-avenue and Columbus Ravine.
*W. T. Petch—Victoria Park-avenue.
*Jaram & Sons—roadway leading from Ashville avenue to Columbus Ravine.
*Jaram & Sons—part of Ashville-avenue.

SELBY.—New Council school at Haxley-road, for the West Riding C.C. :—
Main contractor—*A. Bagnall.

SOUTHEND-ON-SEA.—For the supply and fixing of ceramic to the fronts of the arches on the south side of Hamlet Court-road railway bridge, for the T.C. :—
*Carter & Co., Poole.....£975

SOUTHEND-ON-SEA.—For the supply of concrete tubes to the T.C. :—
*J. Ellis & Co., Leicester..... £280

SOUTHPORT.—For supply of spun iron pipes to the gas department, of the T.C. :—
*Stanton Iron Works Co.

STOCKTON.—Banking premises for the Yorkshire Penny Bank, Ltd., at High-street :—
*H. E. Turner & Son, Ltd., York.

STROOD.—For the improvement of Longfield-road, Meopham, for the R.D.C. :—

A. E. J. Price, Strood.....	£21,000	0	0
Spencer & Co., Swanley.....	20,182	12	6
T. Muirhead & Co., London..	17,289	17	6
F. C. Reeves, Westminster..	16,878	9	6
Cheffins, Lewisham.....	16,766	0	0
W. Muirhead, Macdonald, Wilson & Co.....	16,579	14	0
Chittenden & Simmons, Maidstone	13,179	19	4
Turner & Co., London.....	14,498	6	0
Egan & Cochran, Ltd., London	14,445	7	0
*L. Terry & Co., Offham.....	12,662	2	0

SWANSEA.—For repaving spare lock gates at King's Dock, Swansea, for the G.W.R. Co. :—
*Wailes, Dove, Bitumastic.

SWEENEY.—Twenty-eight houses at Sweeney, Oswestry, for Major Parker Leighton, Sweeney Hall. Messrs. Berrington & Son, architects, Prudential Chambers, Wolverhampton :—
*Wm. Edwards, Shrewsbury..... £14,081

THORNFIELD.—Offices for the Tramways and Omnibus Department at Sheffield-road. Mr. Bailey Deeping, architect, 12, Gluman-gate, Chesterfield :—
*Jas. Collis & Sons, Ltd.

THORNABY-ON-TEES.—For (1) 110 non-parlour type houses in pairs; (2) the construction of sewers in open cutting, comprising approximately 1,300 ft. 9 in. diameter and 1,350 ft. 6 in. diameter, together with all manholes, specials and appurtenant works; and (3) construction of roads, comprising kerbing, channelling, formation of new footways and carriage-ways in tarmacadam, including foundations, also reinforced concrete carriageway, for the T.C. Mr. G. H. Connor, Borough Engineer, Surveyor and Housing Architect :—

(1)

A. V. Clerey, Grindon	£50,272	0	0
W. F. Richardson, Gisbrough	49,333	0	0
H. Nowell, Stockton	46,200	0	0
G. Fordy, Stockton	44,825	0	0
Borough Engineer's estimate	43,759	13	0
A. McLeod, Thornaby	43,500	0	0
John McCreton, Ltd., Middlesbrough	42,684	0	0
Gilbert Long (Builders), Ltd., Middlesbrough	42,500	0	0
‡Stephen Coates, Ltd., Middlesbrough	40,729	6	8

(2)

J. Pearson, Ltd., Stainton	2,583	15	8
Tarslag (1923), Ltd., Stockton	2,211	10	11
M. R. Whitelock Docherty, Redcar	2,067	17	0
R. Cox, Middlesbrough	2,045	14	2
Borough Engineer's estimate	1,764	0	4
H. M. Nowell, Stockton	1,656	0	0
W. F. Richardson, Gisbrough	1,651	4	0
A. E. Hobbs, Norton	1,440	12	9
G. Fordy, Stockton	1,313	6	1
‡Stephen Coates, Ltd., Middlesbrough	1,282	16	8

(3)

W. Shepherd & Sons, Ltd., Rochdale	6,207	11	6
N. Thompson, Middlesbrough	5,580	19	1
Improved Road Constructions, Ltd., Newcastle	5,279	4	8
Gilbert Long (Builders), Ltd., Middlesbrough	5,215	10	3
James McLaren, Ltd., Newcastle	4,442	6	9
Stephen Coates, Ltd., Middlesbrough	4,352	5	11
R. Cox, Middlesbrough	4,287	1	2
H. M. Nowell, Stockton	4,107	0	0
Tarslag (1923), Ltd., Stockton	3,835	18	10
G. Fordy, Stockton	3,829	8	3
W. F. Richardson, Gisbrough	3,642	15	5
J. Pearson, Ltd., Stainton	3,637	3	10
A. E. Hobbs, Norton	3,572	19	1
‡Borough Engineer's estimate (direct labour)	3,549	3	10

TIVERTON.—For the erection of 12 houses at Silverton, for the R.D.C. :—

*G. Short & Sons, Thowerton Per house	£455	3	6

TROWBRIDGE.—For heating and ventilating works at Town Hall, for the U.D.C. :—

*H. Isley .. £235, plus £50 for contingencies.

UXBRIDGE.—For the erection of 60 houses on the Greenway estate, for the U.D.C. :—

H. B. Silver, Ltd., Harrow	£41,484	0	0
F. D. Hidden & Co., Ltd., Brentham	41,107	0	0
Lawrence Aston	38,896	0	0
Fassnidge & Son, Ltd.	38,697	0	0
E. Clark & Sons, Ltd., Melton Mowbray	38,615	18	9
W. S. Try	38,002	10	0
Kempster & Williams, Watford	37,952	8	3
Triangular Construction Co., East Molsey	37,176	0	0
J. Lovell & Son, Gerrards Cross	36,648	0	0
Perry Bros., Ealing	36,327	0	0
A. H. Gibson & Sons, High Wycombe	35,385	0	0
The Building and Public Works Construction Co., Ltd., Swindon	33,959	0	0
R. Myerscough, Harrow	32,302	14	0
Charles Groom, The Grange, Princes Risborough	30,614	16	7

(Consideration deferred.)

WESTHAMPNETT.—For the erection of houses, for the R.D.C. :—

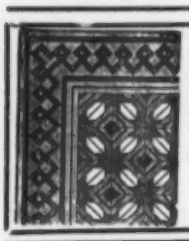
*Bartey, Hartley & Watson—16 houses at Felpham	£7,120	0	
*Sadler & Co., London—13 houses at Sidlesham	5,596	8	

WOKING.—For the erection of 22 houses at Knaphill, for the U.D.C. :—

*Cheeseman ..... per pair £890

WORKSOP.—Work and fittings in connection with the installation of electric light in 20 semi-detached houses at Carlton, for the R.D.C. Mr. A. Edwin Hewitt, surveyor, 66, Bridge-street :—

*J. W. Hanson & Co., Barnby Dun, Doncaster.



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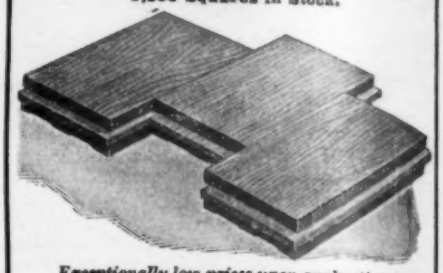

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